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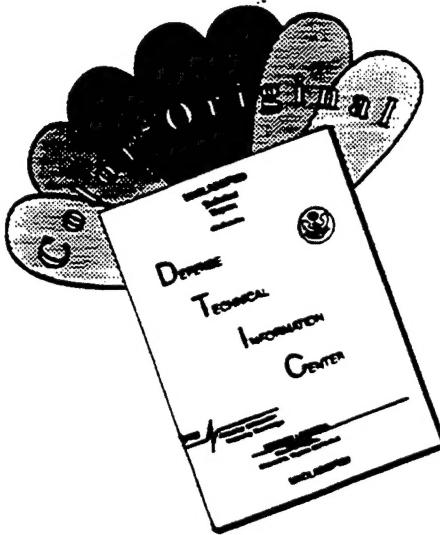
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A new Womack Army Medical Center (NWAMC) is currently under construction at Fort Bragg, NC, with a beneficial occupancy date (BOD) of November 1998 and opening for patient care in the summer of 1999. While there are many issues that planners must deal with as the hospital completion comes closer, one of the more interesting is that of inpatient psychiatric care. In 1985, two wards of the NWAMC for a total of forty-eight beds, were designed for inpatient psychiatry. A decade later, populations, political realities and economic pressures have changed. This study addressed two issues. The first was a decision on whether or not continuing with construction of the psychiatry wards as designed was desired by the WAMC command. The second part of this investigation addressed alternatives for and issues in managing inpatient active duty psychiatric patients for which NWAMC will be responsible. Four separate scenarios are compared for cost effectiveness. After a decision brief in January 1996, the WAMC command decided to continue with construction as designed in an effort to remain flexible to changing situations. Of the options for delivery of active duty inpatient care in the NWAMC, outsourcing to the Veteran's Administration was the most cost effective.

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**ACTIVE DUTY INPATIENT PSYCHIATRIC CARE  
IN THE NEW WOMACK ARMY MEDICAL CENTER**

**A Graduate Management Project**

**Submitted to the Faculty of**

**Baylor University**

**In Partial Fulfillment of the**

**Requirements for the Degree**

**of**

**Master of Health Care Administration**

**By**

**LTC Terrence S. Murphy, Dental Corps**

**Fort Bragg, North Carolina**

**June 1996**

## Acknowledgements

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Womack Army Medical Center was an excellent place to learn and work. COL Brennen, the hospital commander is a warm and compassionate leader. COL Culley, the Chief of Staff and my preceptor, gave me freedom, support and encouragement throughout the year. It was easy to work for these two individuals.

Throughout the medical center, other military medical facilities and the other fine medical treatment facilities in the city of Fayetteville, there were many people who gave their time providing me with facts, insights and suggestions. It would be impossible to list them all.

Finally, my readers, COL Michael Carino and LTC Kevin Williams, provided the perfect combination of patience, advice and the occasional 'boot in the pants.' Kevin Williams was remarkable in his ability to help bring my drafts 'back from the dead' with his expert proofreading. Getting through this project without them would have been very difficult.

I am indebted to all I met and worked with this year. Thank you.

## Abstract

A new Womack Army Medical Center (NWAMC) is currently under construction at Fort Bragg, NC, with a beneficial occupancy date (BOD) of November 1998 and opening for patient care in the summer of 1999. While there are many issues that planners must deal with as the hospital completion comes closer, one of the more interesting is that of inpatient psychiatric care.

In 1985, two wards of the NWAMC for a total of forty-eight beds, were designed for inpatient psychiatry. A decade later, populations, political realities and economic pressures have changed. This study addressed two issues. The first was a decision on whether or not continuing with construction of the psychiatry wards as designed was desired by the WAMC command. The second part of this investigation addressed alternatives for and issues in managing inpatient active duty psychiatric patients for which NWAMC will be responsible. Four separate scenarios are compared for cost effectiveness.

After a decision brief in January 1996, the WAMC command decided to continue with construction as designed in an effort to remain flexible to changing situations. Of the options for delivery of active duty inpatient care in the NWAMC, outsourcing to the Veteran's Administration was the most cost effective.

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## INTRODUCTION

Many military facilities in the 1990s are downsizing. The medical services are no exception to this trend. Clinics, hospitals and other operations have been reduced or eliminated. However, a few locations are experiencing new growth. Womack Army Medical Center (WAMC), Fort Bragg, North Carolina is one of those locations. The current 412,701 square foot hospital was opened in August of 1958.<sup>1</sup> This facility is past its usable life span and undersized for its mission. A new Womack Army Medical Center (NWAMC) is currently under construction with a beneficial occupancy date (BOD) of November 1998 and open for patient care in the summer of 1999. While the NWAMC is more than twice the size of the 'old' WAMC, it is still classified as a replacement hospital. By design of Congress, the NWAMC is not intended to either grow in overall bed number or missions. However, there is considerable potential for additional capabilities in this new facility. (See Appendix A) Cogent to this project is the design for the sixth floor of the patient tower. Currently drawn as a two ward psychiatric inpatient unit, it will have forty-eight beds. (See selected drawings at Appendix B)

In the fall of 1995, several staff officers identified the possibility of altering the building plans in an effort to better meet the potential health care needs of Fort Bragg in 1999. The Health Facilities Planning Office (HFPO) expressed a need for a rapid identification of any

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<sup>1</sup>Briefing, LTC John T. Watts, Health Facilities Planning Office, Fort Bragg, NC, 11 September 1995.

proposed Engineering Change Proposals (ECPs). Construction has begun and long lead times are required for substantive changes to the plans. The HFPO identified one or both of the proposed psychiatric wards as a potential candidate for conversion to another use. While other areas of the new hospital were also analyzed for possible revision in either form or function, the sixth floor was particularly attractive for redesign. At 48 beds, it will more than double the capability of WAMC's existing psychiatric ward. The present 22 bed ward in WAMC has a very low census and treats only active duty patients. All other categories of mental health patients are managed externally through CHAMPUS and a mental care contractor. Additionally, the staffing for the present psychiatric ward and any future ward was not planned to increase.

The command group of WAMC desired an analysis of both the concept of operation for this space (and ultimately the need for 48 beds as designed) and possible psychiatric inpatient care alternatives. Coincident to this investigation, and closely related to it, another investigation began into outsourcing the active duty psychiatric care and possibly closing the ward. This economic analysis (EA) was conducted by the Resource Management Division (RMD), WAMC. The North Atlantic Health Services Support Area (NAHSSA), WAMC's higher headquarters command, had pressed the issue of a budget cut for fiscal years 1996 and 1997. The budget cut estimates ranged from \$1.8 million to \$5 million per year.<sup>2</sup> Even if the smallest estimate becomes reality, significant actions will be necessary to compensate for the decrement. A realistic cost cutting scenario might be the closing of an underutilized ward and redistributing costly assets.

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<sup>2</sup>COL Culley, Conversations, September 1995.

This study addresses two issues. The first decision is whether continuing with construction of the sixth floor space as designed is desired by the WAMC command. The second addresses alternatives for managing inpatient active duty psychiatric patients for which NWAMC will be responsible.

## **CONDITIONS WHICH PROMPTED THE STUDY**

### NWAMC Background

Vector Research Incorporated (VRI) and the engineering firm of Sherlock, Smith, & Adams, Inc., conducted the initial economic analysis (EA) of construction options for the new Womack Army Medical Center (NWAMC) in April 1986.<sup>3</sup> This EA justified the basic decision to construct a replacement hospital and elemental design decisions.

VRI revalidated this EA in June of 1992 since there had been significant changes in the environment during the six intervening years. This revalidation confirmed the total construction project as an economically sound decision. The revalidated EA specifically categorized and quantified services provided by the civilian sector paid out of the WAMC operating budget. The concept of recapturing workload dominated business and strategic plans during the early 1990s. Psychiatric care was addressed in several areas of the revalidation EA and specifically listed

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<sup>3</sup>Economic Analysis of Fort Bragg USA Hospital, VRI-ANAF-1 FR86-1(R), Vector Research, Incorporated, and Sherlock, Smith, & and Adams, Inc., 17 April 1986.

"recapturable" services including virtually every major psychiatric Diagnosis-Related Group (DRG).<sup>4</sup>

In 1993, LTC Eileen M. Munn, Nursing Methods Analyst - HFPO, also conducted a Health Care Requirements Analysis. This analysis showed the projected workload 'generation' by each of the outlying clinics (existing and planned).<sup>5</sup> Two new clinics were scheduled in FY96; the New Smoke Bomb Hill Medical Clinic and the New Corps Support Command (COSCOM) Clinic. Concepts of operations were completed for clinics and services. The report had ten major subheadings. One of them was the Mental Health Care Services Plan. The predicted staffing and work generation levels were generous. This study also validated the construction of the NWAMC along with the two new clinics. While specific numbers may be questioned in light of recent developments, the basic conclusion of increasing requirements remains valid.

There was considerable outside interest in the economic efficiency of the decision to build a new hospital. Of the \$250 million obligated for the construction, \$40 million came from the Base Realignment And Closure (BRAC) process. The BRAC commission was established by Congress to reduce both the political influence on military drawdown and protectionism from within the military. The commission was tasked to present the President with lists of military facilities that should be reduced in size or closed outright. Through the BRAC process, it was possible to increase some selected budgets for projects or bases that were increasing in size or

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<sup>4</sup>VRI EA, Appendix C.

<sup>5</sup> Health Care Requirements Analysis for FY 96 Clinic Construction Projects at Fort Bragg, LTC Eileen M. Munn, Nursing Methods Analyst for HFPO-Ft. Bragg 6 October 1993.

mission due to consolidation. Congress wanted to ensure the money was being spent as they intended and that value could be demonstrated.<sup>6</sup>

#### Current Inpatient Psychiatry Ward, WAMC

At this time there are seventeen inpatient beds located on the fourth floor of the existing hospital (Ward 4B). However, patient census has been averaging approximately eight beds (less than 50 percent occupancy). More than 50 percent of the admissions are related to substance abuse.<sup>7</sup> For the past three fiscal years (FY), over one third of all admissions have been for alcohol/drug abuse only.

Staffing for this ward includes three military nurses, three civilian nurses, thirteen military technicians, three civilian technicians, and one civilian administrator. Past economic analyses used these staffing levels in comparing the costs of outsourcing inpatient care. The make or buy decisions made in the past have not always been solely based on dollars, but included political considerations.

While WAMC's primary customer are the active duty soldiers, the medical center has an important secondary customer, the military unit commanders. Commanders at Fort Bragg have come to expect considerable latitude in their ability to refer and transfer 'psychiatric' patients to WAMC. Fort Bragg has eliminated Charge of Quarters (CQ) and unit commanders may currently be unwilling to be responsible for those soldiers that require close supervision, but not hospitalization. An alcohol abuser is an example of a person who may fall into a 'close

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<sup>6</sup>Watts, John, LTC, Meeting, December 1995.

<sup>7</sup> Lavigne, K. MAJ, Interview, November 1995.

'supervision' category. There may be no medical reason to admit many of these patients to the inpatient psychiatric unit. The manner in which WAMC approaches the next few years will 'set the stage' for the concept of operation in the NWAMC for psychiatry care. A serious investigation into the possibility of closing the current ward and moving the active duty patients to the Fayetteville Veteran's Administration Medical Center is under way and will be discussed later. A closure of the current ward might radically alter both civilian and military staffing and future manpower allocations.

#### Local Health Care Resources

##### The Fort Bragg Mental Health Demonstration Project - Cardinal Mental Health

This very expensive demonstration project ended in 1995, at a cost of over \$100 million for the five year duration of the project. This demonstration project provided full mental health coverage for child and adolescent beneficiaries at no cost to the patient. These categories of patients accounted for approximately 73 percent of the total outlay for mental health service in the DoD and have been the focus of many studies.<sup>8</sup> While the Fort Bragg Demonstration Project is not directly related to this study, it is still instructive in terms of the command climate at Fort Bragg and the expectations of health care beneficiaries to have care provided in the civilian community at no cost to the patient.

The Demonstration Project was an alternative delivery system experiment funded by the Department of the Army, but developed by a Dr. Lenore Behar, Director of Children's Services

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<sup>8</sup>Fort Bragg Evaluation Project, Final Report: Cost Volume, Vanderbilt Institute for Public Policy Studies, Center for Mental Health Policy, Nashville TN, September 1994.

for the North Carolina Department of Human Resources, Division of Mental Health, Developmental Disabilities, and Substance Abuse Services in 1986.<sup>9</sup> It was popular with patients since there were few or no restrictions on care and no cost sharing charges.<sup>10</sup> However, questions about effectiveness and cost generated considerable debate. Final costs for this demonstration project are still being tallied as debate continues between the contractor, Cardinal Mental Health, and the government.

FHC Options, Inc.

As it was not economically feasible to continue the Cardinal Mental Health Demonstration Project, a different arrangement was sought. In October of 1995, a more 'traditional,' managed mental health care contract replaced the Demonstration Project. This program included all CHAMPUS eligible patients for mental health care. FHC Options Inc. (FHC), won the contract at a total cost of \$60 million. They will be paid this total over five years in unequal one year increments. The contract payment is front loaded to allow for greater costs during the start up. Of interest is the fact that the government has retained the option to terminate this contract during each annual renewal period. This allows for some flexibility as WAMC approaches 1999.<sup>11</sup>

FHC Options, Inc. is now the official coordinator of mental health services for the Ft.

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<sup>9</sup>Fort Bragg Evaluation Project, Final Report, Vanderbilt Institute for Public Policy Studies, Center for Mental Health Policy, Nashville TN, September 1994.

<sup>10</sup>Interview with Dr. Kay Lavigne, Child Psychiatrist, WAMC, October 1995.

<sup>11</sup>Interview with Buddy Kimmons, Contract Manager, WAMC, October 1995.

Bragg Catchment Area. FHC maintains a network of contracted mental health providers and community resource contacts.<sup>12</sup> <sup>13</sup> At present, FHC does not provide mental health services for the active duty population. However, FHC is related to this investigation since they are responsible for all inpatient care for family members and retirees. The amount of inpatient care they purchase affects the local markets. During the NWAMC design period, inpatient bed days were considered a potential recapturable patient load. The size of the psychiatry wards under construction in the NWAMC are directly related to this expected recapture. FHC Options, Inc's. experience with inpatient care is discussed in more depth later.

#### Cumberland Hospital

This facility is associated with Cape Fear Valley Medical Center (CFVMC), a county owned facility. Cumberland is a 110 bed facility with a full spectrum of complete and partial hospitalization and outpatient therapy programs.<sup>14</sup> The hospital was bought by CFVMC about 4 years ago. The purchase was part of CFVMC's strategic plan to prepare for the changes that were occurring in the healthcare market place and the local military medical facilities.<sup>15</sup> CFVMC was looking for niche services that the Fort Bragg medical facilities either could not partially or completely provide. An example of this very successful approach is CFVMC's

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<sup>12</sup>"Your Guide to Understanding CHAMPUS Mental Health Benefits." FHC Options, Inc. handbook, 1995.

<sup>13</sup>Personal Visit to FHC Options, Inc., Local Office in Bordeaux Shopping Center, April 1996.

<sup>14</sup>Personal Visit to Cumberland Hospital, April 1996

<sup>15</sup>Whitehouse, Edward, (Director, Cumberland Hospital), Interview, 24 April 1996

Maternity Services. They have a Neonatal Intensive Care Unit (the only one in the region), a wide range of educational programs for expectant mothers (and fathers), and a beautifully remodeled "Family Centered Birth Center" for deliveries. In the Fayetteville area, CFVMC is the undisputed leader in deliveries. Approximately one third of the 4,500 babies they deliver each year are for military beneficiaries.<sup>16</sup>

When CFVMC bought Cumberland, they had a similar objective. Cumberland is FHC's only referral location in the city of Fayetteville for inpatient psychiatric care. On occasion, active duty patients are hospitalized at Cumberland. This may occur on rare occasions when the number of patients exceed the available beds, if a disruption in staffing occurs, or if a patient's immediate medical needs have already placed them at CFVMC.

Prior to the contract with FHC Options Inc., beneficiaries of the Civilian Health and Medical Program of the Uniformed Services (CHAMPUS) (family members and retirees), accounted for up to 50% of Cumberland's workload.<sup>17</sup>

While exact figures are confidential, the estimates show that inpatient days provided by Cumberland for military beneficiaries have dropped since FHC became the intermediary for psychiatric care. However, payment for services, both inpatient and outpatient, provided to these beneficiaries still constitutes a large portion of Cumberland's operating budget. Should WAMC/NWAMC opt to recapture any of the CHAMPUS psychiatric workload, Cumberland Hospital's operations might be greatly affected.

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<sup>16</sup>Coordinated Care Division, WAMC.

<sup>17</sup>Economic Analysis of Health Care Requirements and costs at Womack Army Medical Center, Fort Bragg, North Carolina, VRI-DMFO-1 FR92-1, Turner, Huffort, Droppleman, & DiGiuseppe, 14 December 1995, pg. ES-8.

### Veterans Administration

The VA hospital in Fayetteville (215 beds, 40 of which are psychiatry) has two lead product lines; surgery and psychiatry. A staff of approximately 700 operates in a building dated to Public Works Administration construction in the late 1930s. Located on the southeast side of Fayetteville, it is a twenty minute drive from WAMC. The larger 'parent' facility is the VA hospital in Durham, NC. Several VA facilities are located in North Carolina, or locations close to WAMC/NWAMC referral facilities (either Walter Reed Army Medical Center or Dwight David Eisenhower Medical Center), and might directly or indirectly affect on NWAMC. (See Appendix C for general information on selected VA facilities.)

The VA is subject to limitations on who they can treat and the order of priority for beneficiaries. They may not treat active duty family members. Only within certain contractual specifications through a Partnership Sharing Agreement, may the VA treat active duty soldiers.

In a recent speech, the Undersecretary for Health Affairs, Veterans Affairs (Medical Director of the VA Hospital System) stated his federal budget of over \$17 billion was under scrutiny like no other time in history.<sup>18</sup> The possibility exists that with the current reform movements in Congress, the VA will be either constrained in funding or subjected to a net increase in patient load (veterans currently not managed by the VA). A recent VA study shows that 600,000 veterans (nationwide) are enrolled in Medicaid. The VA estimates that ". . . as many as 172,000 could lose eligibility . . . under the Republican balanced budget plan . . ."

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<sup>18</sup>Dr. Kiser, Special Operations Medical Conference, Fayetteville, North Carolina, December 3, 1995,

Additionally the VA analysts predict "... up to 400,000 Medicare eligible veterans . . . will seek medical treatment from the VA if . . . [politicians] go ahead with plans to raise Medicare premiums and deductibles."<sup>19</sup> In a report to congress, the General Accounting Office (GAO) discussed how funding delays might effect the benefits to veterans and the "...VA's recent efforts to realign all of its facilities into a new service network."<sup>20</sup> The VA is reorganizing their system into a group of 22 Veteran's Integrated Service Networks (VISN's) each with global responsibility for a specific region.<sup>21</sup>

#### Other Facilities

Other alternatives for inpatient psychiatric care are limited by number and distance. Fayetteville is a relatively rural area. In fact, the majority of North Carolina is rural. Perhaps the best evidence of this is the relatively low penetration of managed care in the state, estimated to be approximately 7 percent.<sup>22</sup> Duke University Medical Center is in Raleigh-Durham, NC, approximately 75 miles from Fayetteville. A large teaching facility, it does have inpatient psychiatry services. WAMC has several arrangements with Duke to provide care to military beneficiaries. Most recently is the inclusion of Duke's providers in the WAMC preferred

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<sup>19</sup>Army Times, 14 November 1995, "Study: Cuts may force hospital access limits,"

<sup>20</sup>GAO/HEHS Document 96-19, "VA Health Care: Effects of Facility Relignment on Construction Needs Are Unknown," November 17, 1995.

<sup>21</sup>McAllister, Bill and Barr, S., "VA May Lay Off 10,000 Workers Next Year," The Washington Post, March 20, 1996.

provider network. At present, this is primarily limited to outpatient services.<sup>23</sup> Other smaller hospitals in the area have limited inpatient psychiatry facilities but have not historically been accessed by WAMC. All of these locations may be considered too far away for delivery of routine inpatient psychiatric care.

Other military hospitals within WAMC's medical evacuation chain may be used for active duty patients with extreme problems or protracted treatments. Walter Reed Army Medical Center (WRAMC) is located approximately 450 miles to the north of Fort Bragg. Eisenhower Army Medical Center (EAMC) is located approximately 250 miles to the south. Again, these are also considered too far for routine care.

### TRICARE

TRICARE, the military managed health care system is being instituted across the MHSS. Beneficiaries select a delivery plan from three options; TRICARE Standard, TRICARE Extra, or TRICARE Prime. TRICARE Standard is essentially the old CHAMPUS system, a modified fee-for-service plan where the beneficiaries are subject to copays and deductables. TRICARE Extra resembles a preferred provider organization where beneficiaries receive a discount on any copays if they choose a provider in the MTFs network. Finally, TRICARE Prime resembles a HMO with beneficiaries having less choice of providers, but no (or greatly reduced) copays and deductables.

The country is divided into twelve regions. Each region establishes a separate contract with a civilian health care delivery company which defines services and divides up responsibility

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<sup>23</sup>CCD, WAMC.

for the patients in the catchment area. Both the MTF and the contractor are responsible for providing the same benefits and meeting certain access standards. This 'marriage' of civilian managed care and military medicine will impact on all aspects of business at WAMC/NWAMC.

#### The Managed Care Support Contract

Managed Care Support Contract have been let in seven of the twelve regions. The dates, contractors and moneys involved are seen in Table 1.<sup>24</sup>

Table 1.

<b>TRICARE Support Contracts</b>			
(TBD are not awarded yet)			
<b>Region</b>	<b>Start Date</b>	<b>Contractor</b>	<b>Cost</b>
11	Mar 95	Foundation	\$436 million
6	Nov 95	Foundation	\$1.821 billion
9, 10, 12	Apr 96	Foundation	\$2.541 billion
3 & 4	Jul 96	Humana	\$3.780 billion
7 & 8	Mar 97	TBD	TBD
1	Sept/Oct 97	TBD	TBD
2 & 5	Sept/Oct 97	TBD	TBD

Source: COL Broyles, OTSG, Briefing Slides

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<sup>24</sup>Broyles, Thomas, E., COL, (Chief, Managed Care Policy, OTSG), Briefing Slides, April 1996.

The complete implications of the process is far too complex a topic to discuss adequately within the framework of this study. WAMC falls under Region 2, which has its headquarters in Norfolk, VA. Region 2 assembled the request for a proposal, the document that defines exact services and specifications that prospective managed care support contractors will need to include in their bids. In September 1996, bids will be evaluated and a contractor for Region 2 will be selected.<sup>25</sup> The WAMC/NWAMC issues of who will provide inpatient psychiatric services and whether or not FHC Options will be retained as the mental health contractor are on the table. Much will depend on the allocation/enrollment of the beneficiary population.

#### Estimated local patient workload requirements under TRICARE and the MCSC

NWAMC will be a large part of the support for a population of 166,000 patients.<sup>26</sup> Ultimately, the Ft. Bragg facilities are estimated to be able to enroll and manage approximately 106,000 of the eligible beneficiaries, leaving the remaining 60,000 for the Managed Care Support contractor.<sup>27</sup> The requirement is to enroll all active duty and most of the family members in TRICARE Prime with the MTF. The MTF staff will have the responsibility for all of the health care needs of the population enrolled with the MTF. In psychiatric services the effect of this requirement could be interesting. In 1985, a historic workload applied to a

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<sup>25</sup>CCD, WAMC, May 1996.

<sup>26</sup>WAMC Fact Book 1995

<sup>27</sup>CCD, WAMC, January 1996.

requirements formula projected a total need for as many as 51 inpatient psychiatry beds (21 adolescent and 30 adult).<sup>28</sup> If future planners wish to consider recapture of CHAMPUS funds or contract monies paid to a civilian firm (FHC Options Inc.), the assumption is that there will be potential space limitations.

### **STATEMENT OF THE RESEARCH QUESTIONS**

As the NWAMC rises from the ground, the original concepts of operations (COOs) used in the design process require updating to reflect current reality. Initial appraisals by the HFPO of the psychiatry COO have raised significant questions. A forty-eight bed, two ward inpatient psychiatric unit is still planned even though all CHAMPUS eligible patients currently are managed by FHC. A plan for the closure of the remaining ward space at WAMC (and outsourcing active duty psychiatry inpatients) has been advanced.

This study was approached in two phases. The first phase actually determines the direction of the GMP. The research question for this phase was:

*Should the forty-eight bed psychiatric floor in the NWAMC be built as designed?*

*What are the critical determinants for the command group related to this decision?*

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<sup>28</sup>Munn, E., HCRA, 1985.

The second, and equally important phase, was a comparison study looking at four possible scenarios for the delivery of inpatient mental health care at Fort Bragg. Scenario #1: staff and use NWAMC for inpatient care as originally designed. Scenario #2: provide inpatient care through a Veteran's Administration (VA) - Department of Defense (DoD) sharing agreement. Scenario #3: provide inpatient care through a civilian source (e.g. Cumberland Hospital). Scenario #4: establish a Government Owned - Contractor Operated ward. The collection and analysis of data will be organized in a manner to allow comparison of these options to answer the question:

*In an era of uncertainties, can a framework for current and future decisions be constructed that may be used to evaluate which scenario is most cost effective and accommodates the needs of (active duty) patients?*

Provision and payment for mental health services constitute a large part of WAMC's operating budget. If past trends are replicated, increasing costs are expected. Changes in the MHSS and the civilian environment make forecasting needs and costs a complicated process. This focused study: 1) provided reasonable estimates of future inpatient psychiatry bed requirements and, 2) analyzed and compared several options to provide care for these patient requirements.

## REVIEW OF THE LITERATURE

### Overview of Mental Illness - Population/Workload

During a given year, 11% of the American population seeks mental health care services.<sup>29</sup> Historical figures for the Fort Bragg community may be found in several sources (i.e. MEPRS, CHAMPUS Data, analysis of the RMD EA addressing the current psychiatry ward). This community's needs are expected to mimic that of the general society. However, there are some notable exceptions. During the Desert Shield / Desert Storm time period, treatment for psychiatric problems increased by approximately 30%.<sup>30</sup> Several articles exist in civilian journals about the additional stressors in military life and the need to be proactive in management of psychiatric problems.<sup>31</sup> As the military continues downsizing, while increasing operational tempo, psychiatric treatment will be an important service to DoD beneficiaries. The 'mix' of beneficiaries the NWAMC will serve partially determines the case load. Of related interest is that the VRI EA projected a stable active duty and family member population (with slight growth), but retirees are projected to grow much faster. Projections of growth in the over 65 retired population are 48% from 1990 to BOD (beneficial occupancy date). Projections of

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<sup>29</sup>NIMH, 1994.

<sup>30</sup>Region 2 TMAR Meeting, October 24, 1995 and M. Maloy, Chief MMAB, RMD, Interview, November 1995.

<sup>31</sup>Ursano, R.J., Et. Al., "Psychiatric Care in the Military Community: Family and Military Stressors," Hospital and Community Psychiatry, Vol. 40, No. 12, pp. 1284-9.

growth in the under 65 retired population are 7% from 1990 to BOD.<sup>32</sup> Finally, changes in the Exceptional Family Member Program, the Alcohol and Drug Abuse Prevention and Control Program, or other entities possibly associated with psychological/ psychiatric treatment will alter the overall utilization rates.

During the time that the NWAMC was being designed, Department of Defense health care costs were skyrocketing. Between 1985 and 1987, CHAMPUS costs increased 43 percent reaching approximately \$2 billion annually. A large portion of the increase was due to mental health expenditures.<sup>33 34</sup> In the decade between 1980 and 1990, demand for mental health care tripled.<sup>35</sup> In the local Fort Bragg area, Cumberland Hospital benefited from this situation. In response to the demand, for-profit civilian psychiatric hospitals grew in number and size. "According to The AHA Hospital Statistics, investor-owned, for-profit psychiatric specialty hospitals in the United States increased by 60 percent from 1984 to 1989, while the number of beds increased by 56 percent."<sup>36</sup> Interestingly, this was a period of reduction in the psychiatric care provided by the federal (public) sector. This further fueled the growth and profitability of psychiatric care in the civilian world. In 1989, one expert stated; "Low costs, long stays, and favorable reimbursement trends can make a psychiatric unit one of the most lucrative of all

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<sup>32</sup>VRI EA, See assumptions on page ES-9.

<sup>33</sup>GAO Report T-HRD-89-47, 1989.

<sup>34</sup>GAO Report HRD-90-131, 1990.

<sup>35</sup>Fox, B., & Gottheimer, "Meeting Managed Health Care Demands," *Health Care Strategic Management*, Vol 7. 1990.

<sup>36</sup>Hoppszailern, S. "Meditrends in psychiatric services," 1991-1992.

hospital product lines, helping to offset declining occupancy rates.<sup>37</sup> He further went on to state that a facility with at least twenty beds could achieve profits exceeding \$2.5 million in a year.

The mental health environment had become a lucrative business and military hospitals wanted to enter into this market. Recapture of mental health care, and the money that is paid for it, became a priority issue in the DoD. Psychiatric wards were sized for profit. While this study addresses active duty inpatient care, it must be stated that the designed ward capacity in the NWAMC was based on recapturing the other than active duty (OTAD) workload.

#### Effects of Other External Environment Factors

From the 1960s to the mid 1980s, financial obligations for externally provided mental health care exceeded any reasonable estimate. The significance of this logarithmic growth in mental health treatment was not ignored by the payors of the health care costs. Employers, third party payers and others who paid these high cost bills looked for assistance in reducing the spiraling premiums. Cost containment measures advanced in the last decade have partially reduced the rate of increase. Utilization management principles, processes subject to widely differing definitions, were applied to harness the run-away costs. The 'managed care' concept had one of its first successes in the mental health arena. Psychiatry is the only medical speciality with dropping reimbursement levels.<sup>38</sup> Similar trends have been seen in the MHSS. CHAMPUS has reduced inpatient mental health rates. The CHAMPUS Maximum Allowable Charge

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<sup>37</sup>Hagin, "Market memo: Psychiatric hospitals may be high risk investments," Health Care Strategic Management, October 1989.

<sup>38</sup>Wall Street Journal, 21 December 1995, pp. 1 & A6.

(CMAC) for several psychiatric treatments has dropped in response to the changes in the civilian environment.

### Utilization Management

Utilization management (UM) is a series of tools which aid in the conservation and desired allocation of scarce medical resources. In broad terms UM is defined as the planning, organizing, directing, and controlling of the health care product in a cost effective manner while maintaining high quality care and contributing to the overall goals of the institution. It may be accomplished by a variety of techniques which rely on statistical data and continuous monitoring of clinical costs and outcomes.<sup>39</sup>

Ideally, inpatient psychiatry services are neither overutilized or underutilized. Both extremes have negative effects. Utilization management includes review prospectively, concurrently and retrospectively. In short, it is continual. Case management, pre-admission screening, auditing medical charges and records, benchmarking to other standards and the use of clinical protocols or pathways are components of a UM program.

UM is very important in the private sector. One of the most efficient managed care organizations, United Health Corporation (UHC), claims a 21 percent UM saving rate. This is an overall rate. UHC's mental health savings, through their subsidiary United Behavioral, may be even higher.<sup>40</sup> In a mature managed care environment, there; is complete flexibility on the

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<sup>39</sup>Roberts, Marcy, (UM Coordinator, WAMC), Interview, September 1995.

<sup>40</sup>United Health Corporation, Phone interview, April 1996 and OTSG Briefing Slides, April 1996.

utilization of staff, providers trained on managed care procedures, and tools and incentives in place which promote UM goals.<sup>41</sup>

The Army Medical Department's (AMEDD) progress with UM is not as advanced as the public sector. AMEDD UM initiatives include; restructuring the health care devliver system, staff training, inclusion of incentives for beneficiaries and providers which encourage proper care levels, designing facilities for efficient utilization and for optimal health care, developing management tools and insuring interoperability of systems. The AMEDD goal is to attain 1-2% savings per year until the TRICARE contracts are completely implemented in 1998.<sup>42 43</sup> These savings, much to the consternation of MTF resource managers and commanders, are assumed in advance and centrally deducted from the MTF budgets. This 'forced' UM is an additional pressure that WAMC has had to deal with. It is a factor in the commands interest to investigate alternatives in inpatient psychiatry.

#### Benchmarking

Benchmarking is a process where performance of one is compared to others. In health care the statistics of an individual system, hospital, service, clinic or provider is compared against others. Benchmarking may be as simple as comparison to the average, with the goal of trying to perform better. However, benchmarking in the business world is more frequently a

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<sup>41</sup>Blum, Daniel, COL (Dir, Resources Management, OTSG), Briefing Slides, April 1996.

<sup>42</sup>Blum, Daniel, COL (Dir, Resources Management, OTSG), Briefing Slides, April 1996.

<sup>43</sup>Dr. Martin, TRICARE Cost Savings Working Group OSDA-HA, OTSG Briefing Slides, April 1996.

comparison against the 'best' in the field. The goal is simple; excellence in efficiency and outcome. In this study, two benchmarking standards may be referenced. The first is that of the overall health care industry. The second is that of the U.S. Army Medical Command (MEDCOM). MEDCOM assembles its benchmarks by an average of the MTFs under its supervision.<sup>44</sup>

#### Ward design - Specificity of the space as designed

Hospital construction and maintenance costs have never been low. The traditional acute care hospital is shrinking in size and "unused units and empty buildings are ballooning."<sup>45</sup> Medical planners and architects state that there is an increasing number of institutions that will have to deal with the challenge of surplus space. They also note that there is a "huge temptation to use surplus space casually and without planning or financial analysis."<sup>46 47</sup> Inpatient psychiatric bed space is not inexpensive to build. It is also not suitable for most other inpatient services without substantial renovation. As designed, medical gases, patient consoles and plumbing are all specialized. For example; pipes and fixtures must be break-away in design to

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<sup>44</sup>Maloy, M., MMAB, Resource Management Division, WAMC, September 1995.

<sup>45</sup>Moser, Dennis R. and Hamilton, K., "Spare Space," Health Facilities Management, July 1995, p.42.

<sup>46</sup>Moser, Dennis R. and Hamilton, K., "Spare Space," Health Facilities Management, July 1995, p.48.

<sup>47</sup>Rowe, Allen, (Chief Engineer NWAMC, Army Corps of Engineers), Personal Interview, September 1995.

reduce the possible use as a support for hanging/suicide, glass must be 'unbreakable' and windows totally secure.<sup>48</sup>

Merely adapting the underutilized space for 'ad hoc' office space is a waste of resources at best. WAMC must be able to withstand a critical review now and in the future. Strategic vision is not perfect. Today's decision makers are likely, perhaps unfairly, to be second-guessed by others as the NWAMC moves into operation years from now.

### **PURPOSE OF THE STUDY**

The purpose of this study was to collect and analyze data from several sources, build four scenarios of inpatient mental health care for active duty patients and compare them. The first scenario was essentially maintaining the status quo; staffing the NWAMC psychiatric ward(s) with the numbers and types of personnel currently assigned to WAMC. Described earlier, this mode of delivery is what will exist at the opening of the NWAMC if nothing is done to change the course of events.

The second scenario was to outsource the psychiatry beds to the Veteran's Administration facility in Fayetteville. WAMC would purchase all aspects of inpatient psychiatry with the exception that a military psychiatrist will always be in the VA facility or on call. Existing proforma sharing agreements will be used and projected costs based on the transfer of some staff

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<sup>48</sup>MAJ Steele, Interview November 1995, HFPO, Ft. Bragg, NC.

to other locations (or elimination of positions).

The third scenario considered was to outsource the psychiatry beds to Cumberland Hospital in Fayetteville. This facility is the only possible civilian provider of inpatient psychiatric services in the Fayetteville area. In actuality, this scenario was built as a variant of the VA option, with differences in cost and perhaps mode of patient management.

The fourth scenario considered was a Government Owned-Contractor Operated ward, in which WAMC / NWAMC would buy contract personnel and make some changes in operations. This was perhaps the largest "what if?" scenario in the group. Some of the changes in operation were suggested in an effort to make the inpatient care process more affordable.

## **ASSUMPTIONS**

This study did not address all imaginable possibilities since this was a practical impossibility. The researcher investigated and discussed some of the most likely possibilities. This way, the possibility of a conclusion or recommendation being summarily dismissed based on a single 'fact' (different assumption) was reduced. The assumptions cover several areas: the local mission and command vision, strategic vision/guidance from higher headquarters, manpower limitations, graduate medical education, and category of patient.

### Local Mission and Command Vision

A basic assumption of this paper was that the mission of the new hospital will not dramatically differ from the current WAMC. Patient care and "readiness" will always be included in a mission/vision statement. Perhaps an updated mission statement (and vision) will be required to acknowledge some changes in the delivery system. These might include; political realities inherent in mandated managed care arrangements, the possibility of altering retiree entitlements, and finally defining and applying metrics to measure and assess readiness.

### Strategic Vision/Guidance from Higher Headquarters

To ensure that there were no 'war stoppers' above the level of WAMC command that would impact this study, I contacted the Strategic Planning Cells at MEDCOM and the AMEDD Center and School. A short discussion with LTC Michael Williams (MEDCOM) revealed no plans for the NWAMC relating to the delivery of psychiatric care from a MEDCOM strategic level. His office was working on developing "actual metrics" to assist commanders in the pursuit of objectives like "controlling costs." A conversation with a LTC Brown (Strategic Planning Cell for Marketing and Training of Medical Personnel) at the AMEDD Center and School also identified no issues related to psychiatric care at Fort Bragg.

The HSSA has limited plans, as described by COL Wong as both the HSSA's representative and the psychiatric consultant to the surgeon general. He said that the emphasis remains on the initiative of local commanders. His comment, on the future of psychiatry

services was that "we'll get smaller." COL Wong did not state any preconceived ideas on the 48-bed psychiatric ward plans or alternative delivery concepts.<sup>49</sup>

### Manpower

The Table of Distributions and Allowances (TDA) for the NWAMC remains undetermined at this time. Except for incremental change to the TDA in the years leading up to the BOD, there is no one yet looking specifically at this issue. COL Wong expressed the belief that the continuing drawdown of the military will also reduce total psychiatric staffing.<sup>50</sup> Therefore, the assumption is that NWAMC is unlikely to have any more staffing than they do now and may actually have less.

### Graduate Medical Education

The possibility of a psychiatry residency moving to the NWAMC was mentioned by some members of the command group. Army psychiatry programs are currently located at Walter Reed Army Medical Center (WRAMC) in Washington DC, Eisenhower Army Medical Center (EAMC) in Georgia, and Tripler Army Medical Center (TAMC) in Hawaii. Interestingly, the Army Medical Corps Graduate Education Branch has some difficulty filling the slots. COL Wong stated a belief that the DoD is headed towards a total of five psychiatry programs. His thought was that there would be two managed by the Army, two by the Air Force and one by the Navy. That being the case, he felt the logical locations for the two Army programs would be

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<sup>49</sup>Phone Conversations, October and November 1995.

<sup>50</sup>Phone Conversations, October and November 1995.

WRAMC and either TAMC or Madigan Army Medical Center (MAMC).<sup>51</sup> The assumption then is that WAMC / NWAMC is not a potential site for a psychiatric residency program.

#### Attitudes Towards Psychiatric Care for Active Duty

The recent EA on the current psychiatry ward conducted by WAMC RMD indicated that the top five inpatient psychiatry DRGs, in terms of dispositions, were the bulk of the total. Most significant was the fact that the number one DRG was for Substance Abuse Detoxification. Reduced funding levels may cause the military to be less liberal in the approach toward soldiers exhibiting alcohol and drug abuse problems.<sup>52</sup> Current rehabilitation programs may be reduced and more soldiers separated from service. The assumption is made that the military is unlikely to devote more resources to inpatient psychiatric care, and may actually devote less.

#### **METHOD AND PROCEDURES**

While this study was intended to be a straight forward 'make or buy' analysis it was somewhat complicated for several reasons. Gathering information and assembling applicable facts and opinions was a large part of this study. While this is a quantitative study, there are many qualitative aspects that will become part of any decision. As an example, the issue of

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<sup>51</sup>COL Wong, 1 November 1995

<sup>52</sup>COL Wong, 1 November 1995

outsourcing psychiatric inpatient care to the VA or Cumberland Hospital is sure to raise questions from many interest groups. Commanders that have soldiers who are inpatients on a psychiatry ward may not like a new arrangement. If a dramatic unfortunate event occurs (i.e., a suicide or a murder), the news media may center a story on the psychiatric care a soldier received or did not receive. Standard of care issues will be raised. A change in location may also bring a difference in treatment modalities or policies. Therefore, while not a direct objective of this study, care must be taken to ensure that the environment of care and treatments are equivalent between locations. Political considerations might very well dictate an outcome different than a simple "make or buy" decision. The military is a hierarchical and autocratic system. Opinions, preferences and objectives may be imposed on WAMC. Anyone can write an elected official with their concerns about a situation.

The researcher relied on many data sources that are potentially limited in application. These limitations are addressed at the beginning of each scenario and in the discussion section in an effort to increase validity and reliability of the process and results. Internally, WAMC is overburdened in several accounting and information management areas. For example, the Medical Expense and Performance Reporting System (MEPRS) analysts are two to four months behind in reporting. Data that external agents provided was carefully applied to the scenarios with full admission of the potential limitations or inaccuracies. A sensitivity analysis on the costs of each scenario displays what magnitude of variation might cause conclusions to change.

## RESULTS

### Decision Brief

A Decision Brief was presented to COL Michael Brennen (the current WAMC commander) and selected staff officers on 10 January 1996. The briefers were; LTC Terrence Murphy (Administrative Resident), MAJ Sharon Steele (NMA, HFPO) and MAJ Jill Williams (Chief, Transition Office). The presentation covered the information discussed earlier in this paper. Additionally, aspects of the construction process were discussed. The relationship between and the timeline involved in the joint venture between Centex (the contractor) and the Army Corps of Engineers were explained. Finally, the issues of transitioning patient care from the 'old' WAMC to the NWAMC were briefed. An abbreviated summary of the construction and transition issues not previously discussed is included as Appendix D.

### Critical determinants in the decision

COL Brennen identified his priorities as: 1) provide the proper standard of care for the patients now and in the future, 2) retain flexibility in design and function to be able to react to changes in mission, 3) do not incur additional construction costs, and 4) avoid large future costs (due to either space modification/construction or forced purchase of health care services).

### Potential Cost Savings versus Future Costs

A pivotal set of facts related to the amount of construction money that might be returned to a general use fund if the 6th floor was simply shelled out. If a significant amount of money

could be held in reserve for future space modification, flexibility could be maintained. HFPO estimated a maximum savings of between \$250,000-300,000, from acting on a decision to shell out one of the psychiatric wards.<sup>53</sup> This savings would be as money returned from the NWAMC contractor, Centex, out of the original award. The estimate was based on a total square footage cost of \$250 per square foot. This cost could be reduced by \$100 per square foot for up to 3000 square feet on the sixth floor of NWAMC. This was only an estimate and was subject to contest by Centex. If presented with a formal request, they would likely try to reduce the amount of money returned through a series of claims. For example, if the specification called for a special type of door on the psychiatric floor and Centex had already procured or obligated themselves to a supplier, that portion of the 'savings' would not exist. The risks involved in not finishing the wards were that the space would still require money to complete for some use later (possibly more than was saved) and the hospital would open with inadequate or zero psychiatric ward space. Both uncertainties weighed heavily in the decision.

### Decision

The commander decided to continue construction as originally designed. From a practical standpoint this answered the first research question: *Should the forty-eight bed psychiatric floor in the NWAMC be built as designed?* and brought the management project to the subject of the final research question: *In an era of uncertainties, can a framework for current and future decisions be constructed that may be used to evaluate which option is most cost effective and accommodates the needs of (active duty) patients?*

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<sup>53</sup>Watts, John, Meeting at HFPO, December 1995.

### Population Characteristics

Statistical data were obtained from the Patient Administration System and Biostatistics Activities (PASBA2), the Medical Expense Performance and Reporting System (MEPERS), and the MEDCOM population report.<sup>54</sup> For the past three years, the active duty population in the Fort Bragg community has remained quite stable. The FY93 population of 48,986 decreased slightly to 48,757 by the end of FY95. These figures include Pope Air Force Base which is adjacent to Fort Bragg. The inpatient psychiatric patient demographics and dispositions for WAMC have also been stable. They are shown in Tables 2 and 3.

Table 2.

<b>Psychiatric Inpatient Demographics</b>	
FY93-FY95 Averages	
<b>Parameter</b>	<b>Value</b>
<b>SERVICE MEMBERSHIP</b>	
Army	90%
Air Force	8%
Navy	1%
Reservists	1%
National Guard	0.1%
<b>GENDER</b>	
Male	87%
Female	13%
AGE <25 YEARS	52%
AVERAGE CENSUS	8.4 (patients)
ALOS	4.68 (days)

Source: WAMC PASBA2, MEPRS, MEDCOM Population Report

<sup>54</sup>MMAB, RMD, WAMC, 1995. (Through Deborah L. Felmy, Management Analyst)

Table 3.

<b>Top Five DRGs</b> (Psychiatric Inpatient Dispositions)			
<b>DRG</b>	<b>FY93</b>	<b>FY94</b>	<b>FY95</b>
Alcohol/Drug Abuse Detox w/o complications	163	175	177
Neuroses Except Depressive	101	107	133
Depressive Neuroses	92	76	53
Psychoses	46	48	49
Disorders of Personality	29	44	29
<b>TOTAL</b>	<b>431</b>	<b>450</b>	<b>441</b>
<b>% of all psychiatric inpatient dispositions</b>	<b>88</b>	<b>91</b>	<b>90</b>

Source: MMAB, RMD, WAMC

The case mix index for psychiatric inpatients has been very consistant.<sup>55</sup> This fact lends support to the assumption that we can accurately project disposition costs for a given population. It is important to remember that if the admission criteria or patterns change, new caculations must be made. For the purpose of equal comparisons, the same case mix and population was assumed for each scenario.

#### Scenario #1: Status Quo, applying existing WAMC staffing levels to NWAMC

This portion of the investigation was expected to be the simplest to complete. It was not. The challenge came in determining how to allocate personnel costs to the inpatient ward. A

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<sup>55</sup>MMAB, RMD, WAMC 1996.

portion of an EA conducted by the Resource Management Division (RMD), released 14 December 1995, looked at both inpatient and outpatient activities and staffing<sup>56</sup>. The purpose of this EA was to explore options for gaining office space in WAMC for the Department of Family Medicine and, if possible, saving money by reallocating personnel assets in the Department of Psychiatry. These two issues were connected because the two departments already share some office space. The EA determined inpatient costs by an allocation of total Psychiatry Department costs. RMD projected FY96 psychiatric inpatient costs to be \$1,392,360 or \$2,830 per disposition. The average WAMC disposition factored with the inpatient psychiatry case mix gave the above cost. Another simpler way to look at the ward costs is to look at the personnel costs. Salary costs are the major determinant of ward costs. The average salary budgeted for a generic WAMC employee in FY96 was \$36,367.<sup>57</sup> The current staffing for the inpatient psychiatric ward is 23 personnel. Multiplying \$36,367 by 23 workers yields \$836,441. Supplies, laboratory costs, pharmaceuticals, cleaning costs and other miscellaneous costs should be added to further refine the estimate.

To compare Scenario #1 to the other scenarios, it was simplified by considering only the personnel costs as an estimate of total cost. The other facilities (the VA and Cumberland) bundled most miscellaneous costs into their proposals. They thought these other miscellaneous costs were negligible amounts. Built as planned, the cost of the psychiatric wards in NWAMC are sunk costs, and therefore are also not a factor. There were, however, some potential cost exceptions which do need to be considered that will be addressed later.

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<sup>56</sup>Femly, Deborah., Conversation, December 1995.

<sup>57</sup>WAMC Proforma Budget FY96, RMD, 29 February 1996.

In determining the costs of Scenario #1, changes were made in the current staffing to adjust to the MEDCOM benchmarking standards. The comparison of actual to benchmark are seen below in Table 4.

Table 4.

<b>Current Staffing vs. Benchmark</b>				
FY96 WAMC Psychiatric Inpatient Ward				
	Nurses	Techs	Admin. Staff	Total
Inpatient Benchmark	11	9	0	20
Actual	6	16	1	23
Delta	-5	7	1	3

Source: MMAB, RMD, WAMC

Estimations of the personnel costs were done two ways. In the first, the average WAMC salary was multiplied by the benchmark personnel number. The result is seen in Table 5.

Table 5.

<b>Scenario #1: NWAMC</b>		
Average Salary Method		
Benchmark Staff	Average Salary	Cost/Year
20 Personnel	\$36,367	\$727,340

Source: CCD, RMD

An alternative method to estimate personnel costs was to identify the staff on the basis of the Functional Manning Roster which shows the classification and grade of each authorized position. FY96 was selected as the most representative and accurate year. This roster is included as Appendix E. Military Pay and Allowance (MPA) tables were used for the Army authorizations. The General Schedule (GS) pay table was used for the civilian authorizations. An additional amount was added to each salary to account for fringe benefits not reflected in direct wages.<sup>58</sup> The result is seen in Table 6.

Table 6.

## Scenario #1: Status Quo Cost (an alternative estimation)

Type	Grade	Estimated Salary / Benefit Cost
Nurse	MAJ	\$54,000
"	1LT	\$35,000
"	GS10	\$46,000
"	GS10	\$46,000
"	GS10	\$46,000
"	GS9	\$43,000
"	GS9	\$43,000
"	GS9	\$43,000
Psych Wardmaster	E7	\$40,000
Psych NCO/Tech	E5/GS4	\$32,000
"	E5/GS4	\$32,000
Psych Specialist	E3/GS4	\$22,000
"	E3/GS4	\$22,000
"	E3	\$22,000
<b>TOTAL COST</b>		<b>\$727,000</b>

Source: MMAB FY96 Functional Manning Roster, Military and GS Pay Tables

<sup>58</sup>Hunter, Ronald S., Smith, G., & Gordon, 1996 Uniformed Services Almanac.

The remarkable similarity of the two estimates is a partial validation of the two methodologies used to determine total salary costs. If staffing levels were very low or had extreme variation in wage levels, the average salary computation might not be as accurate. Since the base line annual cost for provision of inpatient psychiatric care was determined by these personnel, the NWAMC cost (in 1996 dollars) which all other scenario costs were compared to was: \$727,000.

#### Scenario #2: Partnership with the VA

Several visits were made by different groups of WAMC personnel to the Veteran's Administration Medical Center, Fayetteville from December 1995 to April 1996. One of the most productive meetings occurred on 19 January 1996. Following a general meeting with a large group of people from Womack and the VA, we divided into several groups focusing on different issues. I accompanied the group touring an almost completed renovation of the VA psychiatry ward. The individuals leading the tour or providing additional information were enthusiastic and interested in VA-WAMC cooperation. This was validation of the new environment in which the VA exists. Nancy Edwards, VA Nursing Supervisor was the lead guide. She is the individual who determines staffing levels and ward policies which affect the actual costs.

A thirty bed psychiatric unit was due to be completed sometime in February 1996. When we were there, the contractors were finishing the floors and finalizing the electrical connections. The single ward is pleasing in design and appearance. It has been constructed to meet or exceed all JCAHO and governmental standards. The patient rooms are primarily configured for two

beds with about 150 square feet. There will be a couple of one bed rooms. Finally, there is one 'isolation/high security' room adjacent to the nursing station.

Of interest to WAMC planners and analysts is the fact that the ward will be staffed with 18 personnel to cover three shifts and an anticipated average patient census of 17. This census refers to the VA patients only. Nancy Edwards made the point that current staffing was "lean" and sufficient only for their own patients. If WAMC's psychiatry inpatients were to be outsourced to the VA, the expectation is that at least one additional staff member would need to be added to each shift, thus increasing their costs. The VA representatives stated that intended to add staff to the point that they met WAMC's needs. On average, up to 13 active duty inpatients could be accommodated before bed space was exceeded.

The VA was also very proud of their Substance Abuse Detoxification Program. They believe that this resource is a valuable asset that might be useful for military patients. While this was outside the strict boundaries of this investigation, some facts are included. The program may last up to 30 days. After thirty days, there is a strong pressure to remove an individual from the inpatient program. In FY95, 375 people completed the program for a total of 6990 bed days. The unit operates at a 80% occupancy rate with 60% of the patients being alcohol abusers and 28% cocaine abusers. The VA Medical Center's cost is \$170 per bed day.<sup>59</sup>

As mentioned earlier, the VA made an initial offer to immediately furnish inpatient care. The estimated cost is seen in Table 7. It was not cost effective so it was not acted upon.

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<sup>59</sup>Summary Of Visit, Issues Relating To Inpatient Psychiatric Care, Fayetteville VA Medical Center, 19 January 1996.

Table 7.

<b>Scenario #2: VA Cost</b>			
<b>First Offer</b>			
<b>Cost/Day</b>	<b>Average Daily Census</b>	<b>Days/Year</b>	<b>Cost/Year</b>
\$367	8.4 Patients	(x)365	<b>\$1,125,222</b>

Source: CCD, RMD

On 9 February 1996, the VA tentatively offered inpatient psychiatry care at a cost of \$150 per bed day for three fixed beds and \$200 per bed day for four swing beds. Swing beds can be converted to psychiatric care on an 'as needed' basis for times when all the fixed beds were occupied. WAMC would not be charged for these beds unless actually occupied. This agreement was contingent upon WAMC's psychiatry department providing the professional services (one on-site psychiatrist) and treatment for these soldiers. A further limitation, and potential area of concern was charges for other medical services, not psychiatric in nature, but medically required, that the VA would charge for under the sharing agreement.<sup>60</sup> The only other option would be moving the patient back to WAMC for the procedure. An excerpt of the existing sharing agreement is found at Appendix F.

Applying projections of inpatient days to these costs yields a total yearly cost of \$558,450 as seen in Table 8.

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<sup>60</sup>DoD-VA Sharing Agreement (Amendment)Draft #6-48.

Table 8.

<b>Scenario #2: VA Cost</b>				
Second Offer				
Type Bed	Number Required (ave)	Cost/Day (\$)	Days/ Year	Cost/Year (\$)
Fixed Bed	3 (always)	\$150	(x)365	\$165,250
As Needed /Swing Bed	5.4 (balance)	\$200	(x)365	\$394,200
			<b>TOTAL YEARLY COST</b>	<b>EST \$594,450</b>

Source: DoD/VA Sharing Agreement (Draft) 6-84

### Scenario #3: Outsourcing to Cumberland Hospital

Cumberland has tentatively offered the following rates; \$500/day for active duty and \$695/day for family members.<sup>61</sup> This offer has remained consistant throughout the study despite several conversations between WAMC and Cumberland. In an April 1995 interview, the CEO of Cumberland Hospital related a discussion that he had a couple of months earlier with the VA

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<sup>61</sup>Resource Management Division and Coordinated Care Division, WAMC multiple statistical sources, 1995.

Medical Director.<sup>62</sup> The VA intended to underbid any competitor for WAMC's (or NWAMC's) inpatient psychiatry business. Additional aspects about their offer will be discussed later. The annualized cost, based on the average active duty bed cost times the average census, is seen in Table 9.

Table 9.

<b>Scenario #3: Cumberland</b>				
Type Bed	Average Daily Census	Cost/ Day	Days/ Year	Cost/ Year
As Needed	8.4 patients	500	(x)365	<b>Est. \$1,533,000</b>

Source: CCD, WAMC

#### Scenario # 4: Government Owned - Contractor Operated Ward

Government Owned - Contractor Operated situations exist throughout the MHSS. They are very unique, regionally and situation specific arrangements. Hiring local medical personnel may be a difficult and unpredictable process. For most medical personnel, Fayetteville is a 'sellers market.' Certain specialties are very difficult to obtain. In general, specific critical health care services are contracted by WAMC through a national or regional for-profit company. Once requirements are identified, WAMC's contracting branch uses a standard process to

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<sup>62</sup>Whiteside, Edward, Interview. April 1996.

estimate costs.<sup>63</sup> This estimate is sent to the contractor who then validates it with an estimate of their own. Copies of estimates for a recent hiring action are included in Appendix G as examples. A proforma estimate, for a government owned - contractor operated ward based on the psychiatric inpatient benchmark requirements is seen in Table 10.

Table 10.

## Scenario #4: Total Contract Cost

Category	Comment	Cost/Year	Subtotals
Salaries	(11 Nurses, \$20/hr)	\$440,000	
	(9 Technicians, \$9.50/hr))	\$171,000	
	TOTAL DIRECT PAY		\$611,000
Fringe Benefits	(Est. 25% of salary)	\$152,750	
	TOTAL SALARY/ BENEFITS		\$763,750
GME/ Misc.	(Nurses, \$1000/yr)	\$11,000	
	(Techs, \$500/yr)	\$4,500	
	TOTAL COST		\$781,250
General & Administrative	(12%) of Total Cost	\$93,750	
	TOTAL CONTRACTOR COSTS		\$875,000
Profit to Contractor	(8%)	\$70,000	
	<b>TOTAL COST TO GOV'T</b>		<b>\$945,000</b>

Source: IQ/ Direct Health Care Provider Service, CFVMC, WAMC CCD

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<sup>63</sup>Beard, Beverly, Contracting Branch, WAMC, Interviews, April & May 1995.

Note that an administrator is not included in the personnel list. This would have to be a function provided by an existing manager or writing a new job description for one of the hiring actions. There is always the chance that a single source would provide the personnel and do much of the administration. A contract with FHC Options or a like behavioral medicine managed care firm might be possible. However, at this time, with four years to run on their current contract, FHC did not volunteer any specific contracts.

### Comparison of Costs

The most cost effective Scenario was #2: Outsourcing to the VA. It was, infact, the only scenario that didn't result in a loss. Potential savings (loss) were the amount between the WAMC/NWAMC cost and other scenarios. The following, Table 11, summarizes the direct costs to provide inpatient psychiatric care for the projected active duty population.

Table 11.

<b>Scenario Cost Summary</b>		
Psychiatric Inpatient Care		
<b>Scenario</b>	<b>Cost</b>	<b>Savings (Loss)</b>
#1	\$727,000	\$0
#2	\$559,450	<b>\$167,550</b>
#3	\$1,533,000	(\$806,000)
#4	\$945,000	(\$218,000)

AD, Annual Amounts

There is perhaps the most flexibility in Scenario #4, in terms of utilizing an existing space (the NWAMC psychiatric wards) and the possibility to recapture additional inpatient treatment. With that acknowledged, Scenario #4 was the second most expensive when only the active duty mission is considered.

## **DISCUSSION**

At the end of February 1996, with preliminary information from this study and the EA of 14 December 1995, WAMC's executive committee prepared to move active duty inpatient psychiatric care to the Fayetteville VA. Both studies had demonstrated the cost effectiveness of a transfer of inpatient care. A planning meeting was held. All internal parties who had an interest in the transition were invited. It was a heavily attended and animated meeting. Much of the anxiety over the proposed patient transfer was a normal resistance to change. There were, however, objections to the move based on facts and perceptions. These objections were an important reaction that impacted significantly on the commander's decision.

### Objections to Outsourcing

#### Specific nature of active duty patients

An early argument against outsourcing centered on the belief that military psychiatry was different from civilian psychiatry. The psychiatrists at WAMC made the argument that military

psychiatry is a very specific subspecialty that workers in a civilian system may not understand. The personnel in a outside facility may not appreciate military stressors or the limitations in an active duty soldiers career path. An example from Ft. Drum demonstrated this lack of understanding. A civilian mental health care worker's comment to an active duty patient was: "So you have stress with your job? We'll just get you to change jobs and it will be better." The health care worker did not understand that reclassifying for another job in the military is not a simple procedure.<sup>64</sup> Better education of the workers in the supporting facility seems a reasonable partial fix for this problem.

Proximity, Immediacy and Expectancy (PIE) are the principles of military psychiatry.<sup>65 66</sup> Several psychiatrists felt that these principles would be compromised due to outsourcing inpatient care. There were several reasons for their pessimism; the fact that patients would be hospitalized off of Fort Bragg and out of the military environment could result in treatment that could be slowed or complicated. They also argued that a 20 minute drive off post would significantly disconnect an active duty patient from his unit. Partially counteracting this disconnect would however, be the presence of a military psychiatrist at the facility. It was always the intent of the Partnership Agreement to make the VA the place of duty for one of WAMC's/NWAMC's military psychiatrists. Some discussion also occurred on the subject of

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<sup>64</sup>Fern Thomas, Dr., MAJ, (Chief Psychiatrist, Fort Drum MEDDAC), Phone Conversation, May 1996.

<sup>65</sup>Diebold, C. Dr., MAJ (Chief Dept of Psychiatry, WAMC), Meeting, February 1996.

<sup>66</sup>Manning, Frederick, J., Ph.D., "Morale and Cohesion in Military Psychiatry," Military Psychiatry: Preparing For War in Peace, NAS, 1991.

placing a military technician at the VA also. This would, however, increase the cost of the scenario.

There are, however, advantages in retaining an inpatient ward at the NWAMC. For example: 1) inpatients may more easily participate in military outpatient group therapy sessions, 2) patients can be required to wear their uniforms, which may be more accepted in a military facility. Wearing the uniform enhances PIE principles, and 3) direct orders, common in a military environment, are more plausable in a MTF. As one psychiatrist puts it; "You can force patients to submit to therapy when they are in a military facility."<sup>67</sup>

#### Potentially adverse interactions with other patients

Another major concern of the WAMC psychiatrists was the possibility that the active duty inpatient would be exposed to an undesirable patient population. They were particularly concerned about placing soldiers with a VA population which may have a higher percentage of "sociopaths" and "professional patients." According to the WAMC psychiatrists, considerable documentation exists on the detrimental effects of placing younger, possibly first time admissions in contact with patients who have a long experience with, and unsuccessful response to, inpatient therapy. While it is beyond the scope of this study to address all the clinical aspects of inpatient care, some specific observations by other military psychiatrists are interesting.

Other research suggests that perhaps the broader concern is not about the active duty soldier learning bad behavior from interaction with a 'career' psychiatric patient, but from the

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<sup>67</sup>Fern Thomas, MAJ, (Chief Psychiatrist, Fort Drum MEDDAC), Phone Conversation, May 1996.

hospitalization process itself or other factors. Commenting on a study which found soldiers who had inpatient psychiatric admissions had poor retention rates (on active duty), the authors wrote: "We wonder if hospitalization is detrimental to the service member and somehow contributes to discharge. If hospitalization contributes to discharge, then efforts to avoid hospitalization are warranted. Such efforts might include close command consultation and the establishment of treatment near the unit were service members are less likely to be seen as 'mental patients.' Although it is tempting to think that the hospitalization led to discharge, it may be only that hospitalization was a series of problems leading toward discharge."<sup>68</sup> If hospitalization does correlate with poor military retention rates, it seems that greater efforts should be placed on preventing hospitalization in the first place. Some soldiers, however, will not do well with pre-admission therapy and a hospitalization will occur. A realistic viewpoint was expressed by another military psychiatrist in an interview; "Most patients who will learn bad behavior from VA patients are the ones you should chapter anyway."<sup>69</sup>

#### The Unit Commander's Anticipated Objection's to Outsourcing

The convenience factor of an on-post psychiatric ward may overrule cost considerations. As mentioned earlier, for some commanders the WAMC impatient ward has been used as a partial solution for some of their management headaches. On occasion, commanders might request admission to a psychiatry ward for pretrial confinement of a soldier awaiting legal

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<sup>68</sup>Pullen, R and Labbate, L., "Psychiatric Hospitalization: Treatment or Triage?" Military Medicine, December 1992, p. 636.

<sup>69</sup>Fern Thomas, MAJ, (Chief Psychiatrist, Fort Drum MEDDAC), Phone Conversation, May 1996.

action. This puts the military medical facility in a real dilemma. In other cases, the ward is a first step in the process of separating a soldier from service (through a medical board/chapter action). A recent past chief of psychiatry at WAMC stated that the unit commanders would be "outraged" if the on-post ward was outsourced.<sup>70</sup> A factor in her assessment was the expectation that medical boards would be delayed. A formal survey of the opinions and needs of the unit commanders has not been conducted. This is an important area for more investigation. It would also have the additional benefit of educating Fort Bragg's leadership on the issues involved in psychiatric inpatient care for their soldiers. The PIE principles mentioned earlier might be more effective if commanders took a greater role in the management of their soldiers admitted for psychiatric reasons.

#### Pharmacology and other clinical issues

Another potential problem area that the WAMC psychiatrists identified was that of variation in treatment protocols and medication. Differing clinical practices between facilities is a possibility. Specific clinical issues were not a focus of this study. However, in the case of Scenario #2, the presence of a military physician on the VA ward during normal duty hours would certainly reduce the potential differences. A simple suggestion to further counteract discrepancies is to adopt (and write into a contract) a universally recognized standard such as the American Psychiatric Association's (APA) "Guidelines for Psychiatric Practice in Public Sector Psychiatric Inpatient Facilities." A copy of the APA guidelines and a local sample guideline are enclosed as Appendix H. One final issue raised was the use of medications that may not be on

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<sup>70</sup>Cheever, T., Dr.,(LTC), Written response to outsourcing proposal, January 1996.

our formulary or use of medications that may cause soldiers to test positive for illegal use of drugs. However, medications can be agreed upon in advance and legally prescribed drugs are not a problem for a soldier who undergoes a urinalysis.

#### Legal and Ethical Issues

A basic question was asked about the status of both physicians treating outside WAMC and the active duty inpatients. Is the VA a legal extension of WAMC? What about Cumberland Hospital? Involuntary commitment of an active duty soldier is not possible at the VA hospital near Fort Drum. This is a state law. The answer to these questions is specific to North Carolina. The answer the WAMC legal office provided was simple; there are no problems with any of the scenarios that cannot be managed.

Finally, the subjects of confidentiality issues with records, phone and FAX and potential ethical issues was raised as possible limitations. Again, effective, reasonably secure, established policies may be agreed upon in advance of the adoption of any scenario. This was not a deciding factor.

#### Transport (Cost and Driving Time)

Perhaps the most significant drawback to outsourcing the active duty inpatient psychiatric patient is the problem of transportation. The drive from WAMC to either the VA or Cumberland takes 15 to 30 minutes. (See Map, Appendix I) According to the Chief of the WAMC Emergency Department, "There is absolutely no way WAMC can handle transport of

the psychiatric patients using existing resources in the ambulance section."<sup>71</sup> Critical personnel shortages in the ambulance section are currently managed through the use of extensive overtime funds. The average daily admission and discharge rate for psychiatric patients would require an approximate minimum of three patient transport missions. This is based on a projected number of 490 dispositions times two (one trip to the psychiatric facility, one back to Fort Bragg) divided by 365 (days in the year) yielding 2.7 trips daily. This figure is only a rough estimate as each part of the caculation is subject to considerable change. For example; holidays and weekends are probably not going to have a large amount ot transfer activity, or some patients might have friends or unit representatives that pick them up, or one ambulance might take several patients on a single trip. Regardless, these routine transport missions could create a significant negative impact on the primary mission of emergency response. Some options for patient transport are seen in Table 12.

The solution to this problem may not be inexpensive. Cumberland EMS, the only civilian ambulance service in Fayetteville, is owned by CFVMC. Originally a county owned and funded service, they historically operated in the red. Under CFVMC management, they are approaching profitability. Currently their fleet of ambulances is being completely upgraded. New ambulances with heavy weight chassis are replacing the older lighter weight vehicles which had a high repair rate problem. This expensive replacement is actually financially sensible. Cumberland EMS will own less ambulances but actually have greater transport capability due to the increased reliability and decreased downtime of the new vehicles.

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<sup>71</sup>Carlin, Dr., (CPT), (Chief Emergency Medicine Department), Meeting, Feburary 1995.

Table 12.

Possibility	Cost	Comments
Civilian Ambulance	~\$200-227/ride	Expensive Variable Cost
Military Van	\$25,000 + Upkeep	Availability / Appropriateness
Military Ambulance	\$60,000-\$120,000 + Upkeep	High Fixed Cost
Hire EMT/Driver	~\$30,000/year	Expensive / Hiring Problem?
MP/Unit Transport	None to WAMC?	Availability / Appropriateness
POV	None to WAMC?	Appropriateness

Source: WAMC Emergency Medicine Department, Cumberland County EMS

Cumberland EMS charges are split into a routine rate (\$200) and a complex rate (\$227) where additional EMS skill is required. Their current overall collection rate is 62%.<sup>72</sup> Even at the routine rate, transport of psychiatric patients could approach \$200,000 a year. If WAMC/NWAMC entered into a contract with Cumberland EMS, a discount off the current charges would be necessary. The relatively low acuity of WAMCs active duty psychiatry inpatients and the fact that the "collection rate" from the military would be 100% might

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<sup>72</sup>Rich, Elliot, (Director, Cumberland EMS), Interview, 24 April 1996.

encourage Cumberland EMS to offer a discount. Outsourcing active duty psychiatry inpatients would not be cost effective if WAMC/NWAMC paid Cumberland EMS's current rates.

In addition to the basic high expense of the vehicles, Emergency Medical Technician (EMT) drivers and attendants are well paid. In Fayetteville, a 21 year old EMT starts at \$11/hour. With benefits and overtime, yearly costs quickly exceed \$30,000 per EMT.<sup>73</sup> If WAMC/NWAMC could even manage to hire additional EMTs, a portion of their cost must be allocated against savings from outsourcing psychiatric inpatients.

Other options for transport, such as a military vehicle or privately owned vehicles (POVs) are subject to many problems. The other military units might not want a transport mission. If WAMC/NWAMC used their own non-ambulance vehicles or permitted POV usage, questions of safety and appropriateness must be raised. However if a reasonable standard of care and safety is attainable with other vehicles, costs might be much less than with an external ambulance service.

#### NWAMC Psychiatric Staffing Issues

Critical to any consideration of changing the existing delivery system is the mechanics of dealing with the assigned staff. There are no savings for WAMC if the assigned staff is retained after outsourcing the inpatient care. Simply reassigning them to another location, such as the outpatient psychiatric service, provides additional staffing in other areas but does not result in cost savings. Personnel reductions are never a pleasant experience, and the task of eliminating 20 positions might be a challenge.

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<sup>73</sup>Rich, Elliot, (Director, Cumberland EMS), Interview, 24 April 1996.

This is complicated by the 'mixed' (civilian and military) staffing common to military facilities. There are differences in how military and civilian workers are managed. Historically, WAMC has had only partial control over the military personnel they receive as staff. This is partly due to inherent inefficiencies and peculiarities of the military personnel transfer (PCS) system. Perhaps even more disruptive is the control exerted by higher headquarters. WAMC was notified in the fall of 1995 that there would be a reduction of over 30 military nurses in FY97. Another example of the impact of higher headquarters was the intentional assignment of additional surgeons above requirements in an effort to 'forward base' PROFIS personnel. Surgeons are an important and highly visible component of military medical readiness. In FY96, WAMC has at least one extra surgeon assigned. However, the combination of assigning excess surgeons and decreasing nursing personnel is not cost effective and leads to frustration for the physicians who can't operate (perform surgery) and the remaining nurses that are over worked. This inefficiency may be desired to support the readiness posture and high tempo of unit deployments at Fort Bragg, but it costs WAMC.

Hiring of civilian employees is also impacted by higher headquarters. Most significant is the Civilian Employment Limit (CEL). Womack is currently constrained by a maximum limit on the number of civilian full time equivalents (FTEs) they may have on the personnel roster. If the FTE CEL is reached, no additional hiring may occur. This may not be a problem if WAMC is below their limit of 998 FTE's. However, for the first six months of 1996, WAMC has exceeded the CEL by as many as 35 employees. This makes tailoring the work force difficult as existing employees must be released. Some individuals might opt to leave or retire for other reasons. Others might be retained within Fort Bragg's medical network. If a worker is moved

out of one duty position and hired/assigned into a different authorized position that is genuinely vacant, there is no net gain and savings may be realized.

### Other Civilian and Military Staffing Issues

#### Local Situation

There is a generalized difficulty in recruiting medical personnel in the Fayetteville area. For example CFVMC has a continuing need for nurses of all categories.<sup>74</sup> Their turnover rate is significant, but understandable for a 'military town.' The VA recently had to increase the pay to their nurses to combat a morale problem and possible employee loss.<sup>75</sup> A casual investigation revealed that both the VA and CFVMC generally compensate their civilian nurses better than WAMC. The possible impact on the scenarios in this study is obvious. Scenario #4 is particularly sensitive to the salary issue. Vendors like Durham Medical Search, National Medical Staffing and CJ Health Records, all used by WAMC, will first try to hire locally at the prevailing local rate. If they are unable to hire, they then look outside the area where they must pay a national rate and possibly relocation expenses. This might make Scenario #4 even more expensive.

#### Borrowed Military Manpower/Benchmark Standards

Another personnel resource that is available to WAMC/NWAMC is borrowed military manpower (BMM). Loaned by military units to the hospital, BMM is not free labor. These

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<sup>74</sup>Thomas, Steve (Director of Personnel, CFVMC), Interview, April 1996.

<sup>75</sup>Calhoun, Jerome (Fayetteville VA Medical Center Director), Interview, April 1996.

individuals are included in the base cost of the ward as a full time staff member. Their estimated salary cost is added to the Direct Care catagory of WAMCs operating budget. This has the effect of reducing the dollars available to WAMC in other subsections of the budget.

One of the excess personnel in the current WAMC psychiatric ward staffing, was a nurse who was borrowed military manpower. While this person provided value to the activity, strict numerical interpretation of the benchmark analysis, which counts BMM as excess, does not support the continued use of this individual. However, from a practical standpoint, it would be difficult to currently operate the ward within JCAHO standards with the loss of any nurses. The current nurse total of six on the psychiatric ward is already below benchmark. A reasonable shift schedule is not possible if there is a reduction of even one assigned nurse. Ironically, the current ward staffing is actually more economical than the benchmark because lower paid technicians have been substituted for nurses.

For adaquate staffing in the NWAMC and to keep comparisons equal, the benchmark calculations must be the basis for personnel distribution. Quality of care comes into question if there is significant deviation, in the abscence of extenuating circumstances.

#### Changes in the Military Health Services System

One of the larger uncertainties in the MHSS that might significantly effect the choice of a delivery option for all inpatient psychiatry is the fallout from the "733 Study." Congress directed this study in the National Defense Authorization Act for FY92 and FY93. Section 733 of this authorization act required the DoD "to examine the current size of the military medical

system in light of the projected requirements of U.S. forces for medical care in a conflict.<sup>76</sup> The end of the Cold War means changes in the medical infrastructure. The magnitude of those changes can be better appreciated by looking at the effects of two options the DoD considered on the number of beds and physicians. They are seen in Table 13.

Table 13.

<b>Medical Requirements Comparison</b>				
FY 1999 Program versus Concurrent Scenario				
	<b>CONUS Beds</b>	<b>Active Duty Physicians</b>	<b>Reserve Physicians</b>	<b>Total Physicians</b>
<b>FY 1999 Program</b>	30,000	12,600	6,500	19,100
<b>Concurrent Scenario (Base Case)</b>	9,000	4,000	5,000	9,000
<b>Concurrent Scenario (Augmented)</b>	N/A	6,300	8,200	14,500
<b>Percentage of FY 1999 Programmed Level</b>	<b>30</b>	<b>33-50</b>	<b>75-125</b>	<b>50-75</b>

Section 733 Study, 19 April 1994

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<sup>76</sup>Lynn, William, J.,(Director, Program Analysis and Evaluation Office of the Secretary of Defense), Statement to Congress, 19 April 1994.

Adoption of either option could change the conclusion of this study. A reduction in beds or active duty staff in 1999 makes Scenarios # 1 less likely. Scenarios #3 and #4 may quite possibly become more cost effective. Watching for congressional action on the "733 Study" (or any follow-on studies) needs to be a priority for NWAMC strategic planning.

#### Regional Implementation of the Managed Care Support Contract

Scheduled to begin in September of 1997, this action will dramatically alter the landscape. While beyond the scope of this study, the ability to work with the contractor on this issue of mental health might yield benefits for both the military and the contractor. This principle is explained in a manuscript titled "Optimizing Resource Sharing Opportunities under Managed Care Support Contracts," by John E. Montgomery, Ph.D., Captain, United States Navy, Director, OCHAMPUS, dated December 1994. An abundance of ward space in the NWAMC might allow for a different operation completely where the contractor and the MTF cooperate and consolidate inpatient care. This is an area for future study.

An additional area for continual investigation in the area of catchment area management at Fort Bragg. Questions that have already been asked include; "Have the appropriate sections at WAMC done accurate scientific studies on the needs of this population?" and "What happens if WAMC overestimates their ability to manage the population?" Make/buy decisions on individual treatments/DRG's would be very valuable. Outcomes of further studies may alter space utilization and concept of operation in the NWAMC. For example if a study showed a need to increase obstetrical capability, success of a business initiative to accomplish that goal might require additional space or other resources. As an

example; why retain an alcohol and drug abuse patient as an inpatient for 5 days (instead shift that patient to an external non-full inpatient detox program) when WAMC could deliver two babies in the same time, saving about \$10,000. Outsourcing inpatient psychiatry may partially help provide space and resources for an overall benefit to the population.

#### Comparison of existing military models

Across the spectrum of Army Medical Department facilities, there is considerable variability in the delivery of active duty inpatient psychiatric care. Locations like Tripler Army Medical Center (Hawaii) and Walter Reed Army Medical Center have full training programs in psychiatry and retain all possible patients. The newly constructed Brooke Army Medical Center (San Antonio, TX) has no psychiatry wards. They have transferred this responsibility to the Air Force at Wilford Hall Medical Center on the south side of the city. Situations that are closely related to this study are seen at Fort Drum (Watertown, NY), Fort Hood (Killen, TX), and Fort Gordon (Augusta, GA).

#### Fort Drum

Fort Drum has no military hospital to serve the active duty population of 11,000 soldiers. Their medical treatment facility is a large clinic. The psychiatric care for soldiers and CHAMPUS eligible patients is managed by Genesis, a free standing psychiatric inpatient facility. This facility is located in Watertown, New York several blocks from Samaritan Medical Center which is the primary referral site for care the military clinic cannot provide. There are two military psychiatrists stationed at Ft. Drum. Interestingly, they do not have

admitting privileges at either facility, even for active duty patients. The average length of stay (ALOS) for patients managed by Genesis is, somewhere between 3 to 5 days, and is dependent on treatment location. If an active duty admission is projected to be longer than 7-10 days, evacuation to Walter Reed is initiated. Temporary Duty (TDY) payments become an issue in these cases.

Sending the active duty cases downtown presents certain challenges and costs. While the Genesis facility is the first choice for admission, patients may be referred to other locations up to an hour away if Genesis is full. Additionally, ambulance costs are paid for travel to Genesis, to another facility when Genesis is at full occupancy, and between Genesis and Samaritan if medical care (other than psychiatric) is required. The only exceptions to an expensive ambulance ride are for non-dangerous patients who are not experiencing a medical or psychiatric 'crisis.' In these cases, where an Emergency Medical Technician's (EMT) skills are unlikely to be needed, the patient may be moved in a military van or a privately owned vehicle.

Active duty inpatient costs are paid through the supplemental care budget. This may become quite expensive as hospital charges, ambulance charges and TDY money for both patients and attendants add up. A final complication occurs if patients self refer to a civilian facility. If notification to the MEDDAC is delayed or not made at all, case management is difficult at best.

The Fort Drum MEDDAC has a sharing agreement with the VA hospital at Syracuse, New York, 68 miles away. It is not extensively utilized for several reasons, the greatest of which is probably the distance the patient would travel and the complication of military physician oversight from this distance. This distance actually makes transfer to WRAMC a better option.

Additionally, the Syracuse VA can accept only voluntary admissions and only during the normal business hours (weekdays from 9 to 4).

The MEDDAC's customers, in particular the battalion level headquarters, have substantially more responsibilities for psychiatric patients. If a soldier has been identified as a potential psychiatric patient, but has not reached the point where admission is determined necessary, the unit's staff duty officer assumes escort/supervisory responsibility. Patients with substance abuse episodes are also a unit responsibility unless the soldier is exhibiting withdrawal symptoms or has additional medical reasons for admission. Historically, this is the only support unit commanders have known since there has never been a military hospital at Fort Drum.<sup>77</sup> The units seem to tolerate these restrictions and responsibilities. This could be a case of the unit leadership making do with what they have or perhaps the system at Ft Drum does work as well as other MTF inpatient treatment patterns.

#### Fort Hood

Darnell Army Community Hospital (DACH) has a different approach to inpatient psychiatric care. Their program, designed and run by Dr. (LTC) David Orman, has been cited by Dr. Joseph, Assistant Secretary of Defense for Health Affairs, as the model for contractor/government cooperation. Operated in the military hospital, it is an innovative approach to constrained resources. The fifth floor of the hospital has two twenty-bed wards. One ward is exclusively for active duty patients. The other twenty-bed ward, accommodated

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<sup>77</sup>The information for this entire section came from Phone conversations with: MAJ Fern Thomas, Chief Psychiatrist, Fort Drum MEDDAC, November 95 and May 96.

CHAMPUS eligible patients from 1988 to March 1996. CHAMPUS eligible patients were/are managed by PHP Inc., a behavioral health contractor. This ward had a dramatic effect on the civilian health care market. Recapture of the psychiatric inpatient CHAMPUS load caused a closure of a for-profit inpatient facility located very close to the military hospital. In March 1996, the ward for other than active duty, was split into a ten bed "CHAMPUS ward" and 10 additional beds for active duty patients.<sup>78 79</sup>

The increase in the active duty beds and corresponding reduction in CHAMPUS beds was due to several factors. There was an increased application of utilization management on the CHAMPUS side. The contractor, in conjunction with the military psychiatric staff has been effective in reducing both the average census (AC) and the ALOS. The increase on the active duty inpatients is partly due to an increased mission. The Fort Hood MEDDAC accepts referrals from, Fort Riley (KS), Fort Polk (LA), and occasionally Fort Sam Houston (TX).

Active duty alcohol and drug abuse patients are stabilized (3-5 days max) and sent to Sheppard AFB (Wichita Falls, TX) for a three week detoxification program. The patient's military unit is responsible for moving the patient to Sheppard AFB. Previously DACH evacuated these patients by air, but that was discontinued since it was very expensive and tied them to a fixed evacuation schedule.<sup>80</sup> This method of dealing with substance abuse patients

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<sup>78</sup>Gross, Lisa, MAJ, (Administrative Resident, DACH), Phone Conversation, November 1995.

<sup>79</sup>Hammer, Linda, (Administrative Assistant to the Chief of Psychiatry, DACH), Phone Conversations, April and May 1996.

<sup>80</sup>Ladson, Linda, (Psychiatric Ward Supervisor, Darnell Army Community Hospital), Fort Hood, Phone Conversation. May 1996.

was interesting. The potential to adopt a similar system at WAMC/NWAMC may result in a decrease of psychiatry inpatient requirements.

#### Eisenhower Army Medical Center

EAMC recently hired a consultant to study the processes, command and control, and services provided at EAMC. An interesting idea came out of that analysis. The Family Practice system was proposed as a 'new' resource for managing psychiatry patients. In fact, MAJ Brian Unwin, Residency Training Director for Family Practice at EAMC has proposed a combined family practice/psychiatry residency.<sup>81</sup> <sup>82</sup> This concept may have significant appeal for Fort Bragg which also has a family practice training program. It is conceivable that an uncomplicated psychiatry inpatient might be treated on a non-psychiatry ward by a non-psychiatrist. This proposition deserves further investigation.

#### Changes in the VA Health Service System

The VA was determined in their effort to obtain the active duty inpatient psychiatric care from WAMC/NWAMC. The VA wanted to begin seeing active duty patients from Fort Bragg as early as 1 April 1996. Upon the request of either party, the contract was renegotiable after a six month period. This was designed to protect both sides from errors or unforeseen circumstances that might significantly alter the costs. The above rates, \$150/day for fixed bed and \$200/day for swing beds are, in the short term, quite inexpensive. The VA, while having a fairly high

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<sup>81</sup>Dexter, Kathy, Personal Conversation, March, 1996.

<sup>82</sup>Unwin, Brian, Personal Conversation, May, 1996.

occupancy rate, does have excess capacity in certain areas. Short term economic advantage exists for WAMC if the 23 personnel currently on the ward are effectively reassigned to understaffed areas or simply reassigned to another duty location.

Disadvantages of this arrangement may be both short and long term. There is an uncertain future for the VA hospital in Fayetteville. The local effects have yet to be seen. It is not outside the realm of possibility that the Fayetteville VA Medical Center might lose the two services that essentially keep it from becoming a 300 bed nursing home; surgery and psychiatry. In a conversation with Mr. Jerome Calhoun he stated that both departments were facing internal reorganization and that the procedure/disposition levels had dropped to levels that might signal 'unprofitability' that the VISN might act upon.<sup>83</sup>

Under this scenario, the VA may have no ability or desire to continue any external partnership agreements. Not anticipating this as a possibility might prove to be a problem. Still, the outsourcing to the VA remains a viable option as well as the use of their alcohol and drug abuse program.

#### FHC Options, Incorporated, and their experience with inpatient care

While it is early in the contract period and data must be interpreted carefully, production reports (as required in the contract) for the first six months have been completed by FHC Options. Supplemental figures<sup>84</sup> (See Appendix I for samples of report summary pages for

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<sup>83</sup>Calhoun, Jerome, (VA Medical Center Director), Conversation 3 April 1995.

<sup>84</sup>Phone and Fax communication with FHC Options Inc., November 1995.

inpatient therapies) show how "Authorized Days" relates to Average Length Of Stay (ALOS) and Average Census (AC). Note that there are many options in inpatient therapy. This complicates both interpretation of the data and raises a few additional questions: 1) "Would outsourcing active duty psychiatric care increase the treatment options for patients?" 2) "With these options, are the managed care approaches of FHC Options/Cumberland Hospital inherently more cost effective?" and 3) "Could these cost efficiencies yield a reduction in the inpatient charges to WAMC?"

Perhaps not directly related to the issue under study, but worthy of additional scrutiny, is the observation that there was a large decrease of patients in the Residential Treatment Center (RTC), Intermediate Therapeutic Group Home (ITGH), and Therapeutic Foster Home (TFH), categories during the first six months. Perhaps this relates to the increases seen in the 'Partial' and 'Acute' categories. More investigation (beyond this study) in 'managed mental health care' treatment modalities and their costs is required.

A summary of the outpatient care provided by FHC Options is found in Table 14 (pg.64). Note in the six month period, the ALOS was 5.6 days and the AC was 8.1 patients. Note also, from Appendix I that the "20 Hour Crisis Stabilization" bed requirements were very low; usually less than one patient AC . For the purpose of this study and estimations of recapturable inpatient load two categories, 'Acute' and 'Crisis' combined, constitute the best estimate of inpatient bed usage.

These numbers are important to calculate patient care requirements under TRICARE and as the MCSC gets closer to full implementation. However, using a worst case scenario, where WAMC provides all of the psychiatry care, the total average census days are approximately 17.

[Active duty ACof 8.4 days plus the average FHC Options full inpatient AC of 8.1 equals 16.7 which should be rounded up to 17]. Again, this is based on just six months of data. The total bed days for the year has yet to be determined. Arguably, bed days may increase as the services

Table 14 .

<b>FHC OPTIONS INPATIENT EXPERIENCE</b>			
October 97-March 96			
<b>Month</b>	<b>Authorized Days</b>	<b>Average Length Of Stay</b>	<b>Average Census</b>
October	245	5.3	8
November	281	7.7	9.1
December	170	5.2	5.8
January	250	4.9	8.1
Feburary	245	4.9	8.4
March	263	5.3	8.5
<b>AVERAGE</b>	<b>242</b>	<b>5.6</b>	<b>8.1</b>

Source: FHC reports, simplified (only Acute & Crisis Stabilization counted)

provided by FHC Options become better known. However, FHC Options has made considerable marketing efforts which may suggests that the numbers may not increase dramatically and might already reflect actual usage.

Seasonal variation has not yet been taken into consideration, but is not expected to increase the average (yearly) much either. Peak projections are not a good justification for

excess bed capacity. For example, during Desert Shield/Storm the mental health requirements increased dramatically. A rapid return to a baseline occurred after deployment.<sup>85</sup> Almost five years have passed without a similar disruption. Situational bed requirement increases can be better managed (and more cost effectively) by means other than building and staffing for peak anticipated/hypothetical events.

#### Recapture of CHAMPUS/Mental Health Contract(s) Treatment

Originally NWAMC was sized for recapture of OTAD care. A difficulty in any scenario where the 48 bed psychiatric wards are built as designed, is that NWAMC will have an estimated excess capacity of 31 psychiatric beds even if it were to recapture all of the OTAD full inpatient psychiatry care. This is true if patient mix or special requirements do not limit bed usage. Future staffing levels might also affect the ability of NWAMC to provide recaptured inpatient psychiatry care. For example, loss of a child psychiatrist / psychologist may reduce the ability to effectively treat juveniles. Limitations like these may further reduce the ability to use the new ward space efficiently. This leads to the next topics of discussion, resource sharing or recapture of the CHAMPUS eligible patients.

The "magic size" for a for-profit psychiatric inpatient venture is between 25 and 30 beds. A venture is usually not capable of generating enough revenue to offset operating expenses if there are fewer than 25 beds. Ventures much larger than 30 beds do not necessarily create 'economy-of-scale' advantages due to the complexity of operation and the relatively fixed requirements for staffing.<sup>86</sup> Recapture of inpatient psychiatry patients is possible, but

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<sup>85</sup>Maloy, M., MMAB, WAMC, Personal Conversation, November 1995.

perhaps not economically advantageous. The decision to continue building the 48 bed ward as designed still leaves flexibility to adopt Scenario #4 if conditions are different in the future.

### Sensitivity Analysis

The conclusions of this study are ultimately altered if the AC changes. Increasing or decreasing the AC may change which scenario is cost effective. As an example, in a civilian managed mental health care environment, like scenario #3, significant changes in the modality of treatment might drop full inpatient days. Specifically, clinical alternatives exist to full inpatient psychiatric treatment. The for-profit managed psychiatric care community is able to offer part-time hospitalization, residential centers, outpatient programs in lieu of admission to a ward and group homes. Some options might prove to be more expensive than inpatient care but others might be less expensive and viable options for the active duty population.

Another action that might effect results would be the institution of 'beefed-up' programs designed to prevent psychiatric hospitalization for the active duty population. Some types of programs that might receive additional emphasis and funding include; alcohol and drug abuse prevention, suicide prevention and stress management. I still believe there are gains to be made in these areas. Possibly changes in military unit structure could reduce levels of admission to psychiatric wards. For example if the Combat Stress Company found in an army division received an expansion of mission and/or an increase in basis of allocation, less soldiers might find care in an inpatient ward as their only option.

Faster transfer of active duty patients who require alcohol/ drug treatment programs to

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<sup>86</sup>Phone Conversation, COL Wong, October 1995 and other sources.

these less expensive locations will lower inpatient days. Increased UM will lower inpatient days. In fact, an increased efficiency in UM was factored into the decision to request only three fixed beds from the VA. Several staff officers, with consultation with medical staff, believed an almost immediate change in the AC was possible.

As a final recap and sensitivity analysis, Table 15 displays what might happen to 'cost savings' in the scenarios if the average census changes. The projected AC is included correctly as 8.4. All other sample average censuses used for comparison are whole numbers.

Table 15.

## Effect of AC Changes

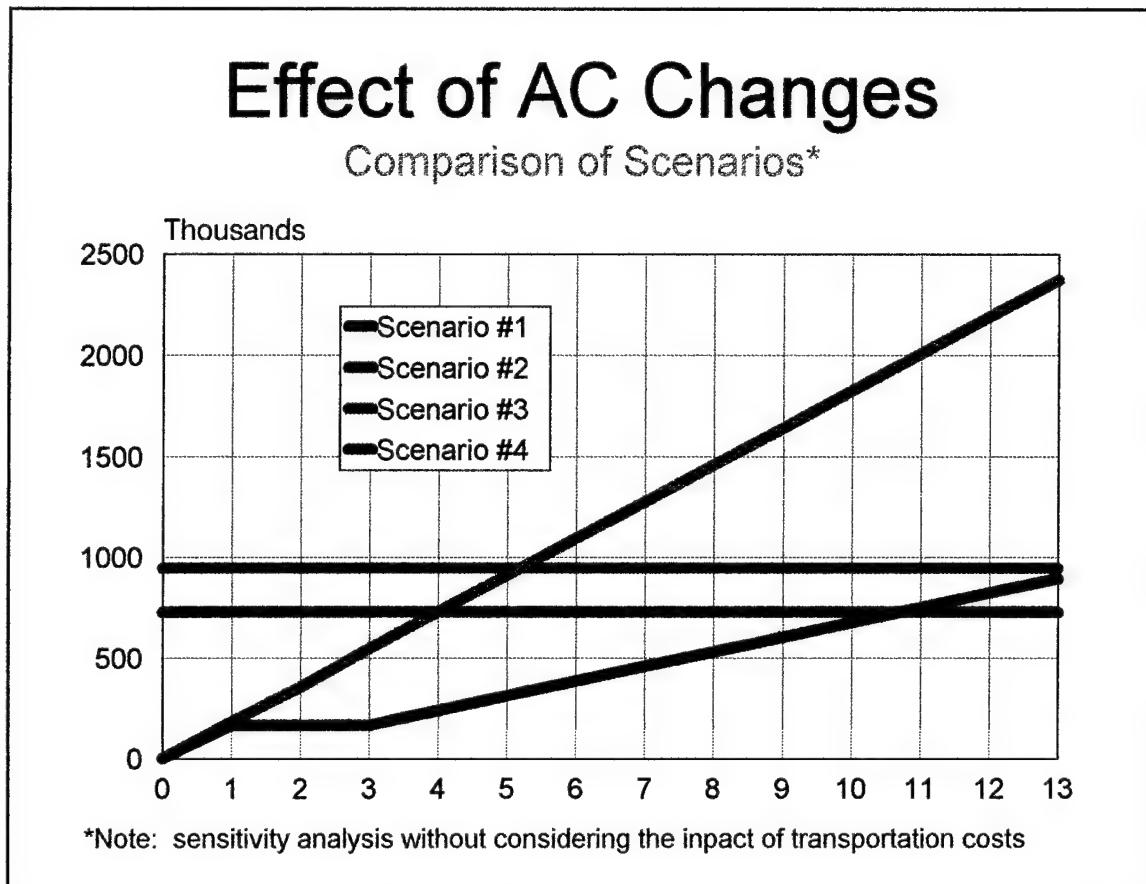
### Comparison of Scenarios

Average Census	Scenario #1	Scenario # 2	Scenario #3	Scenario #4
0	727000	164250	182500	945000
1	727000	164250	356000	945000
2	727000	164250	547500	945000
3	727000	237250	730000	945000
4	727000	310250	912500	945000
5	727000	383250	1095000	945000
6	727000	456250	1277500	945000
7	727000	529250	1460000	945000
8	727000	602250	1642500	945000
<b>8.4</b>	<b>727000</b>	<b>675250</b>	<b>1825000</b>	<b>945000</b>
9	727000	748250	2007500	945000
10	727000	821250	2190000	945000
11	727000	748250	2007500	945000
12	727000	821250	2190000	945000
13	727000	894250	2372500	945000

Sensitivity Analysis without impact of Transportation Costs

The same data is graphically represented in the Figure. The point at which lines intersect is where the 'decision' on a scenario might need to be reevaluated.

Figure.



The graph shows that the VA is less expensive(ignoring transportation costs) than all other options up to the point where the AC exceeds approximately 10.5. At that point, retaining the ward in WAMC/NWAMC is less expensive. Scenario #4, contracted staff, becomes less expensive than the VA at an AC of approximately 13. Both Scenario #3 and #4 may be less

expensive than the VA depending on transportation costs. As a reminder, Scenario #3: Cumberland, had a high cost per bed. If they lower their offer the intersections occur at different point and it is possible that under some circumstances they could be the more cost effective option.

## CONCLUSIONS

The compilation and analysis of the data for this project provided WAMC's command group with a concise and accurate picture of the issues involved in addressing how active duty inpatient mental health care may fit into their total strategic plan.

The initial research question was whether or not to proceed with the construction of the two psychiatric wards. The WAMC commander decided that no modifications would be made to the current construction plan. This is not because there was a demonstrated need for the wards, but rather that the expense of making ECPs and reconfiguring the space for another use would exceed the expense of retrofitting later. Additionally, he wanted to retain the flexibility to bring all inpatient psychiatry (CHAMPUS and active duty) into the new facility.

On the question of the mode of treatment for active duty psychiatric patients, the Veteran's Administration Medical Center, in the short run, was the most cost-effective method of providing inpatient care. The real question requires a longer view. Political conditions may be the larger determiners. The possibility of disruption in the level of funding for the VA or a radical change in the Army endstrength exists. Even if one of these threats materialized, I believe there would be time to react and adapt to the new circumstances. This effort should

create impetus for action on the question of the current psychiatric ward. Certainly, as we approach future budgetary decrements, there will not be money for WAMC to operate as it has in the past. Unless assumptions or situations change, the data supports outsourcing to the VA when NWAMC is finished. The data also supports outsourcing to the VA immediately. Most importantly, a wise use of the space in and resources for the NWAMC will maximize the benefit provided to all beneficiaries.

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## **APPENDIX A**

# **NEW WOMACK ARMY MEDICAL CENTER**

## **KEY FACTS**

<b>Cost:</b>	<b>\$250 Million</b>
<b>Total Square Feet:</b>	<b>920,779</b>
<b>Beds:</b>	<b>287</b>
<b>Mobilization Beds:</b>	<b>431</b>
<b>Site:</b>	<b>163 Acre Wooded Lot</b>
<b>Parking Spaces:</b>	<b>2,500</b>
<b>Population:</b>	<b>159,735, FY1995, Catchment Area</b>

## **MEDICAL CENTER BEDS**

<b>DEPARTMENT</b>	<b>NORMAL #</b>	<b>MOBILIZATION #</b>
Medicine/Surgery	98	148
Step Down	65	103
ICU/Critical Care	24	24
LDR	(11)	(11)
Psych, Peds, Post Partum Units	100	156
<b>TOTAL</b>	<b>287</b>	<b>431</b>

( ) Beds not included in total bed count.

March 95

## FACT SHEET

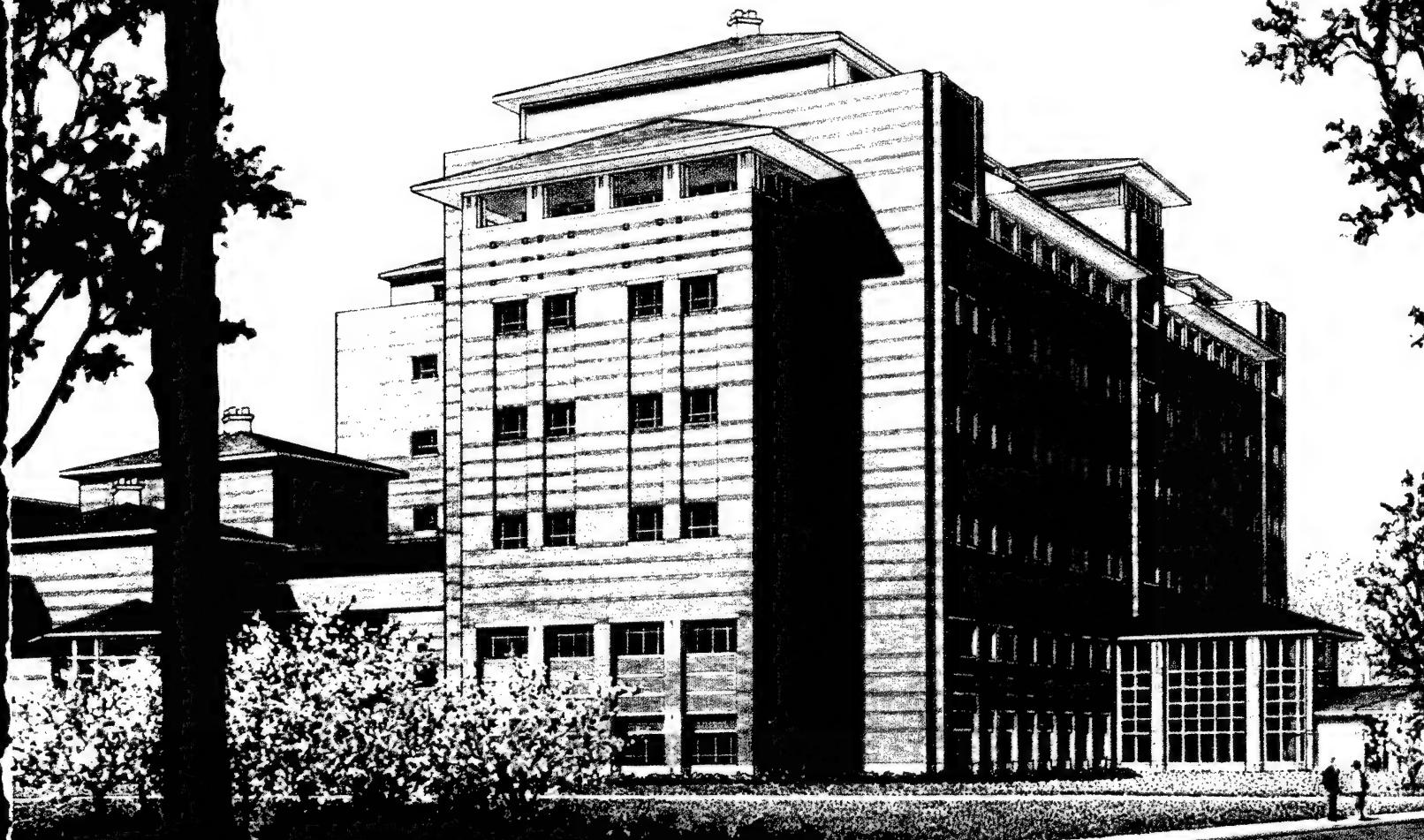
SUBJECT: Current Design of the sixth floor, Psychiatric wards

	<b>6 North, Adult Ward</b>	<b>6 South, Adolescent Ward</b>
Total beds	30	18
4-bed rooms	3	0
2-bed rooms	8	9
1-bed rooms	2	0
seclusion rooms	2	2
	Dayroom	Dayroom
	Group therapy room	Group Therapy room
	Activity Porch (South wing)	Activity Porch
		Classroom w/ teachers office

Special Features of both Psychiatric wards:

- Locking stairwell doors and corridor exit doors
- Room door that open out
- Anti suicide shower stall and fixtures
- Tamperproof electrical outlets
- Tamperproof light fixtures
- Covered fire alarm boxes which sound a local alarm if opened
- No O2 or medical gases*

# Womack Army Medical Center



## *Fort Bragg, North Carolina*



. . . home of the XVIII Airborne Corps and the U. S. Army Special Operations Command with nearly 40,000 active-duty soldiers assigned. Fort Bragg is the largest rapid deployment investment of the Department of Defense. Soldiers assigned here are the projection platform for worldwide mission deployment in less than 18 hours. Pope Air Force Base with 5,200 airmen assigned provides a perfect complement with ground attack, air interdiction and troop and materiel transport capabilities.

in parachute positions. The soldiers and airmen have almost 91,000 family members who enjoy the close proximity to beautiful North Carolina beaches and majestic Appalachian mountains.

**Fort Bragg and Pope Air Force Base** play an important role in the economy of the Fayetteville region. Approximately 11,000 civilian workers are employed at the two installations. An estimated 100,000 soldiers and their family members reside in the community. The total direct and

hospital with expanded services at Fort Bragg is expected to serve as a magnet as retirees and their family members make decisions about where to retire.



# *Patient Care for the 21st Century*

Facility	Cost(M)	Construction Begins	Open for Care
Womack Army Medical Center	246.0	1992	1999
Gen. Roscoe Robinson Health Clinic (82nd)	5.0	1993	1995
COSCOM Medical and Dental Clinic	12.5	1997	1998
Smoke Bomb Hill Medical Clinic	11.5	1997	1998

The Army Medical Department is committed to providing quality, cost-efficient care for "The Total Army Family."

Womack Army Medical Center is proud to serve the more than 159,000 eligible beneficiaries in the region. The medical facilities in use on Fort Bragg today are more than 40 years old, with the majority of the buildings of World War II and Korean War vintage. As a result, the Army Medical Department has decided to replace all medical treatment facilities on Fort Bragg by the year 2000. Three primary-care clinics will support family practice care for soldiers and family members. A new medical center will support the primary-care needs of active-duty

servicemembers, retirees and their family members, as well as providing inpatient and specialty care services.

## **Primary Care Clinics: The Front Line of Medical Services for Soldiers and Family Members**

Three free-standing primary care clinics are being constructed to support Family Practice based care for almost 80,000 Fort Bragg soldiers and family members. The three clinics are the Gen. Roscoe Robinson Health Clinic (82nd Airborne Division), the 1st Corps Support Command Health and Dental Clinic and the Smoke Bomb Hill Health Clinic.

The concept of a 'community' health clinic for patient focused,

comprehensive primary care is the goal, including laboratory, radiology and pharmacy services. The hours of operation are expected to extend into the early evening to facilitate patient access. Other services include:

**Primary Care:** Military sick call, immunizations, acute minor injury care, acute minor illness care, procedures, well-woman care and well-child care.

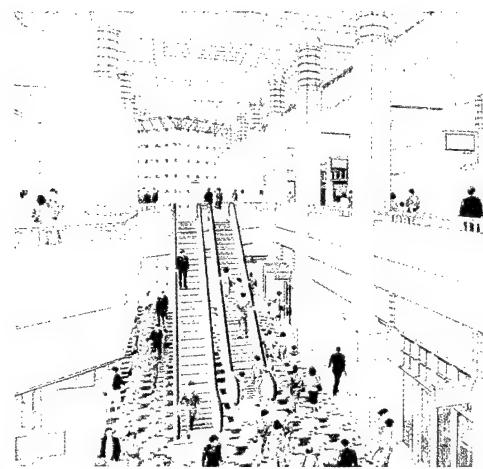
**Specialty Care** services include mental health, optometry, audiology, family advocacy, physical therapy (in the Robinson Health Clinic), a Soldier Readiness Center and dental care (in the COSCOM Clinic).



# *Womack Army Medical Center in 1999*

## **A Woodland Site Location**

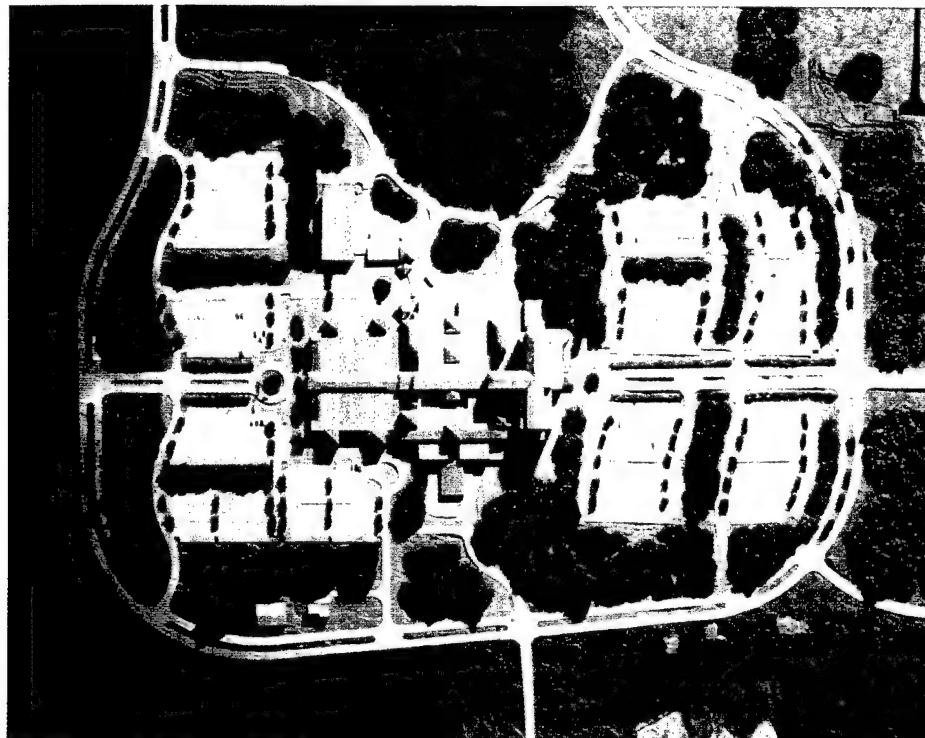
The site for the new Womack Army Medical Center is one-third of a mile north of the current hospital, in a beautiful 163-acre virgin woodland. Much of the natural vegetation is being protected during construction, with reforestation planned for those trees which were removed during initial site preparation. The hospital is centrally positioned on the site with 2,500 parking spaces and support functions distributed around the perimeter. The hospital has an east-west orientation, on formal axis with Iron Mike. The road boundaries of the site are, to the: east, Reilly Street, north, Longstreet Road, west, an extension of the All-American Freeway, and south, Pelham Street. There are four main entrances to the hospital on the first floor, the outpatient clinic entry, the visitor and inpatient entry, the emergency entry, and a separate entry for orthopedic patients.



At more than two times the size of the current Womack Army Medical Center, the new hospital will be the largest building on Fort Bragg and Pope Air Force Base.

**Womack Army Medical Center** will project its own unique character through strong horizontal lines, deep roof overhangs, angled edges and inviting colorful details such as the trellises that greet pedestrians as they approach the hospital. Harmonious blending with the traditional build-

ings of central post nearby has been achieved with the red-shingled pitched roof, recessed windows with divided panes and light-colored frames and limestone detailing. The expected impact of the hospital's great size is subdued through the separation of the primary building components, creating a campus-like atmosphere.



# *Care Divided by Function*



The 940,000 square-foot facility with 319 beds, is comprised of three individual and distinctive structures. From east to west they are a six-story inpatient tower, a three-story ancillary building and a two-story clinic mall. They are inter-connected by a circulation "spine" which runs

through the center of the building and helps patients find the area they are looking for. Seventeen elevators, escalators and a floating staircase ease the movement of people and materiel. Courtyards between the buildings allow natural light to penetrate into the huge footprint of the hospital.

At 173,000 square feet, the **Clinic Mall Building** incorporates the latest concepts in ambulatory facility design. It is organized as a pair of two-story elements which flank the spacious clinic lobby.

The **Ancillary Building** is the physical and functional heart of the hospital. Its 295,000 square feet include all major diagnostic and treatment functions.



Approximately 200,000 square feet in size, the **Inpatient Tower** will be the tallest structure on Fort Bragg. Hospital administrative and staff support services are located on ground and first floors. The inpatient units occupy the second through sixth floor. A modified race track design with central staff support spaces is used to support the team concept of inpatient care services.

# *Customers are Our Business*



**Mother-Baby Care.** Mother-Baby Care is family-centered maternity care. When in labor, a mother is admitted to one of 11 labor-delivery-recovery rooms on the third floor of the ancillary building in the new hospital. In a home-like environment,

the mother, with family support, labors, delivers the baby and recovers, with the baby, in the same room. After both are recovered, they move together to one of the 34 post-partum beds on the third floor of the inpatient tower. More than 300 births per month are planned in the new hospital.

**Level II Nursery.** Newborns too sick to stay with Mom are admitted to an 18-bassinet Level II Nursery on the third floor of the ancillary building, next to Labor and Delivery.

**Orthopedic Care.** Orthopedic surgery is one of busiest services in the hospital. Both the outpatient clinic space and the inpatient unit are expanded in the new hospital to support this growing specialty service. The clinic has a total of 40 offices and exam rooms with a 10-table cast room and a two-room satellite x-ray suite. Two 32-bed units on the fifth floor in the nursing tower are designed to support inpatients. An inpatient physical therapy clinic and special orthopedic equipment room are included on the floor.

## **Intensive Care Services.**

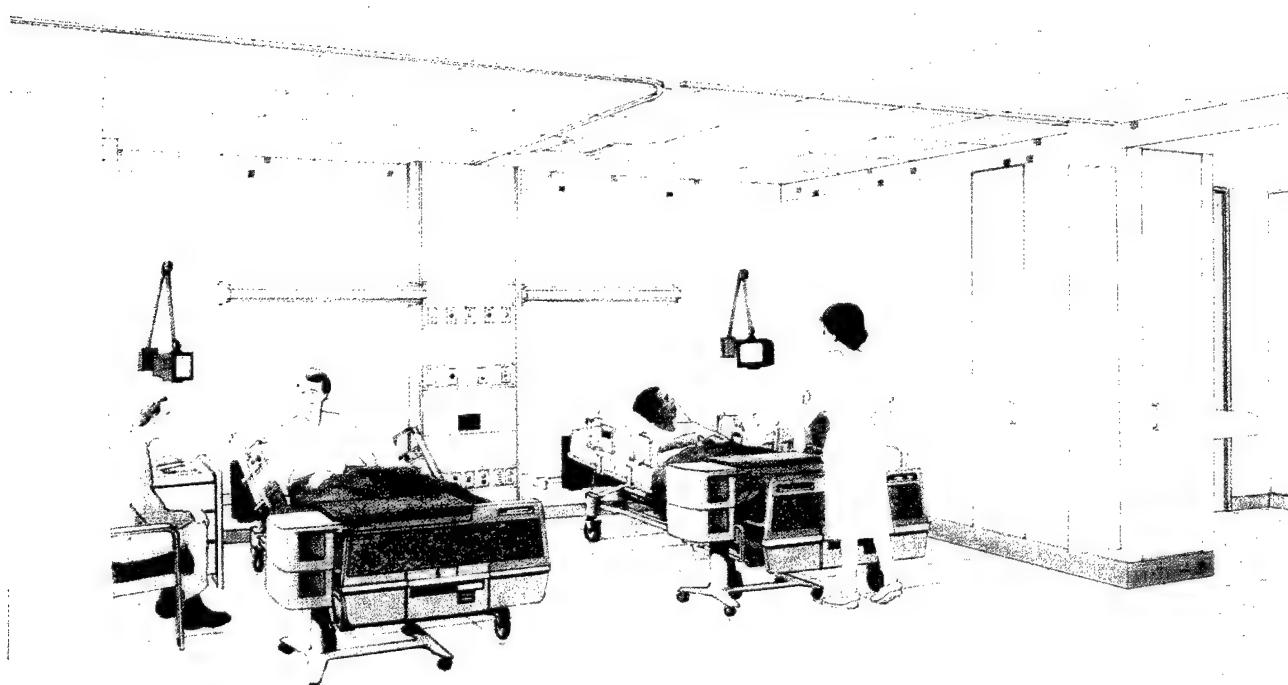
Intensive care capabilities are increased from 15 beds in open bay areas in the current hospital, to 24 private rooms in the new hospital, including a nine-bed cardiac intensive care unit, an eight-bed medical intensive care unit and a seven-bed surgical intensive care unit.

## **Psychiatric Services.**

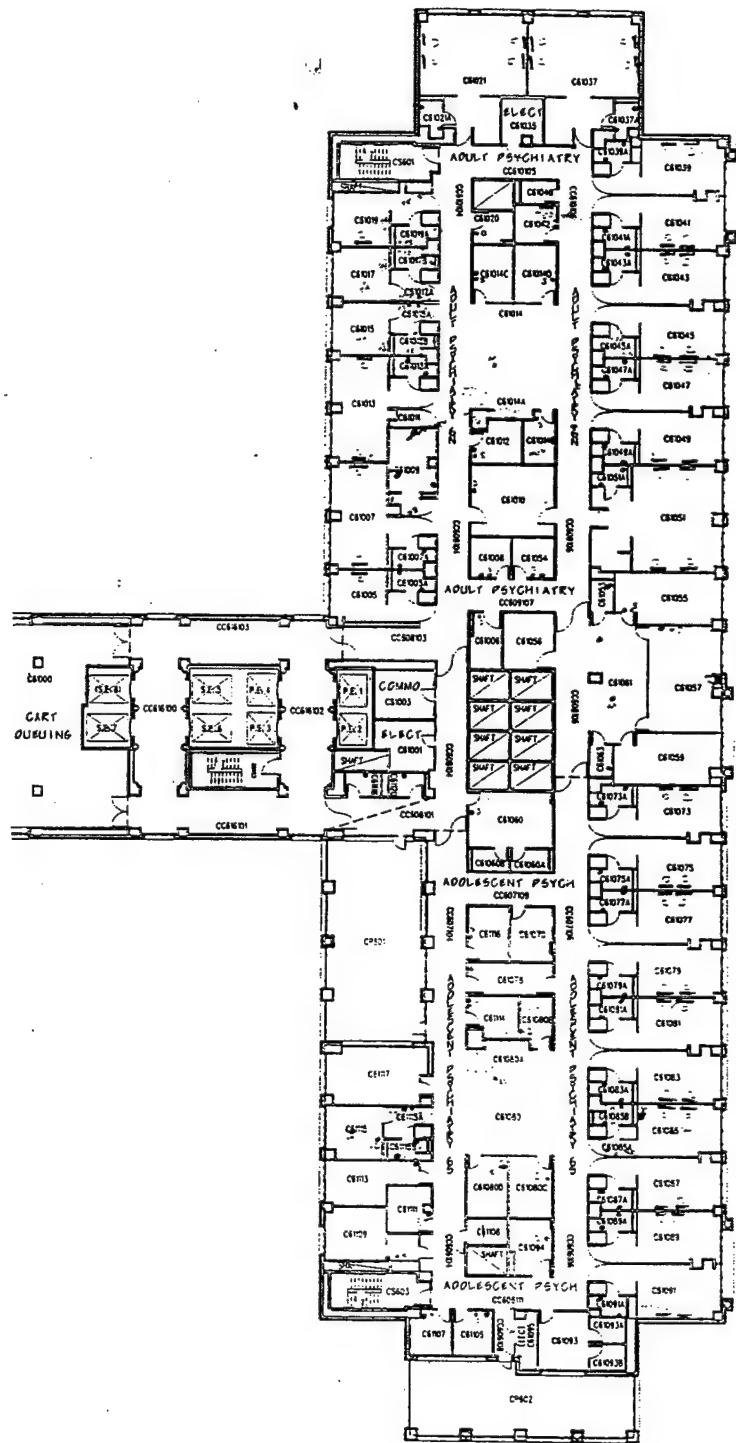
Psychiatric inpatient services are significantly expanded in the new hospital with 30 adult psychiatric beds and 18 child and adolescent psychiatric beds on the sixth floor of the inpatient tower.

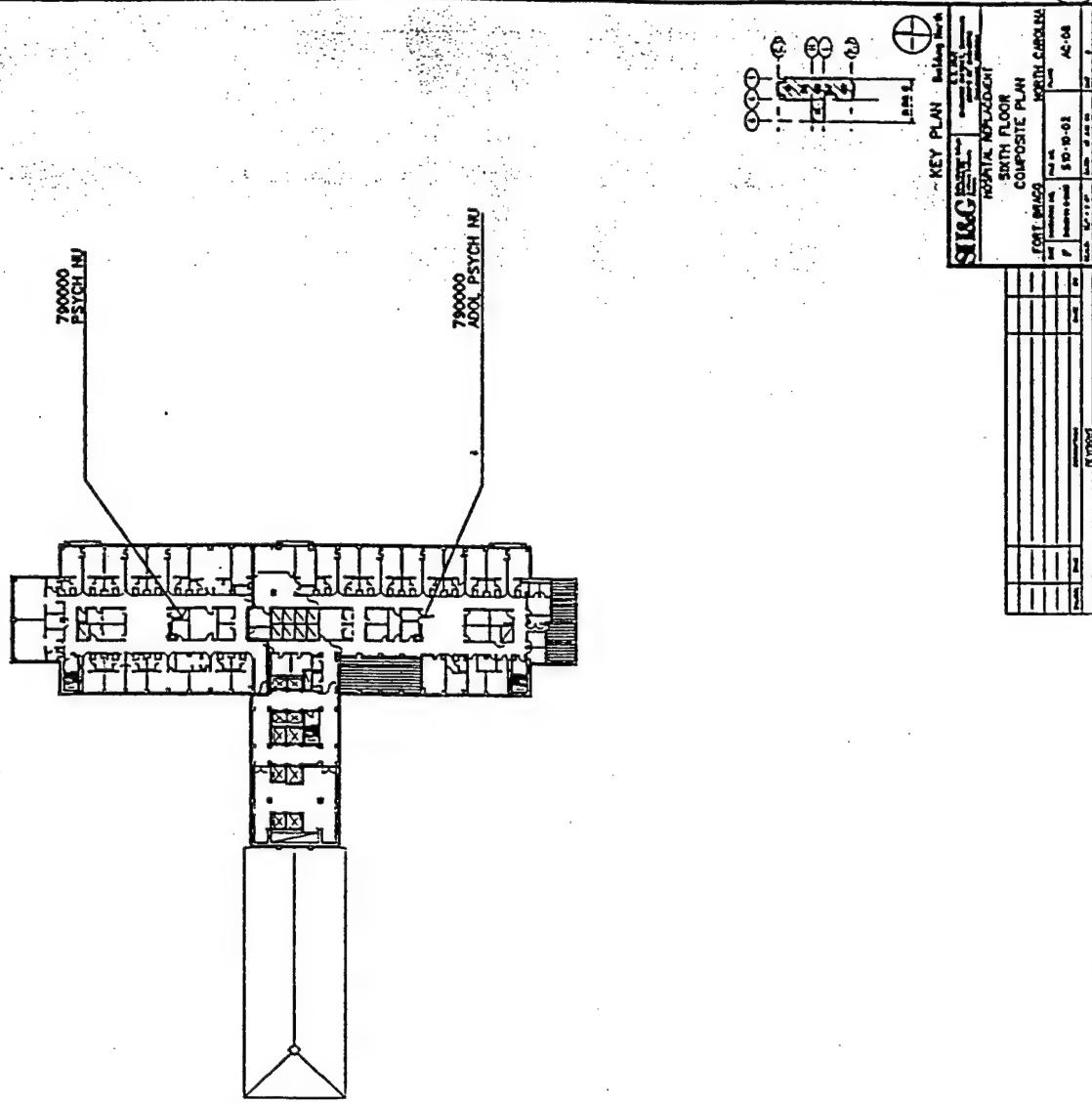
## **Sub-specialty Outpatient Services.**

A number of sub-specialty outpatient treatment areas are included to support the migration of patient care to the outpatient setting. They include: an endoscopy suite with multiple procedure rooms and full patient preparation and recovery capability; a seven patient hematology-oncology treatment suite; expanded ambulatory surgery capabilities; an antepartum diagnostic suite in the OB-GYN clinic; and a one-suite cardiac catheterization laboratory.



## **APPENDIX B**





## **APPENDIX C**

Appendix C

**Psychiatric Beds in Selected Federal Medical Treatment Facilities**

North Carolina

Durham V.A. Medical Center - 48 (ave IP)  
Fayetteville V.A. Medical Center - 40 (ave IP)  
Ft. Bragg, Womack Army Medical Center - 8 (ave IP)  
Salisbury V.A. Medical Center - 182 (ave IP)

Other Army Medical Centers

Tripler - 64  
Beaumont - 44  
Eisenhower - 28 (\*\*Augusta V.A. has 307)  
Walter Reed - 51 (\*\*Bethesda-34, D.C. VA-141, Fort Howard V.A. -10, Perry Point V.A.-248,  
Madigan - 9 (Bremerton Naval-17, Seattle VA-74, Spokane VA-10, Tacoma V.A.-102  
Fitsimmons - 18 (\*\*Ft. Carson-8, Denver VA-82)  
Brooke(new) - responsibility transferred to Wilford Hall  
(Wilford Hall, Lackland AFB-35, San Antonio VA-117)

Selected MEDCENs

Darnall, Ft. Hood - 17

Other

Portsmouth(Navy) - 23

Source: U.S. Medicine Directory 1994-5: Major Federal Medical Treatment Facilities, U.S. Medicine, Inc., Washington D.C.

## **APPENDIX D**

**AGENDA**  
**Economic Analysis Update - NWAMC**  
**Brief 10 January 1996**  
**LTC Terrence S. Murphy, MAJ Jill Williams, MAJ Sharon Steele**

- 1. Introduction**
- 2. Mission & Command Vision**
- 3. Background**
- 4. Workload (Direct & Network)**
- 5. Manpower**
- 6. Current Ward Situation**
- 7. Analyze Alternative Scenarios (Introductory)**
  - A) Basic Issue of Retaining Inpatient Psychiatry Services (Options)**
    - Status Quo
    - Status Quo for building, but contract service
    - Eliminate all inpatient psychiatry
    - Downscale each unit
    - Eliminate child/adolescent inpatient psychiatry ward
    - Decrease number of suicide rooms
  - B) If Psychiatry is decreased or eliminated (Options)**
    - Shelled space (all 6 th Floor)
    - Shelled space, (all 6 th Floor) complete 5 South with saved money
    - Build either 6 S or 6 N with other ward shelled
    - 6 th Floor as a flexible ward(s) with a few psychiatry beds
    - Move Pediatrics to 6 S(or 6 N) and fill 3 N with more OB space
    - Other possibilities based on CHAMPUS and census research

Suggestions for Investigation:

    - Antepartum Unit?
    - Increase Orthopedics
    - Increase Med/Surg ward space
    - Increase OB
    - Women's Clinic
- 8. Estimated savings vs. risks**
- 9. Recommendations**
- 10. Decision**

## **APPENDIX E**

PT96 FUNCTIONAL MANNING ROSTER  
AS OF 30 SEPTEMBER 1995

PARK	LINE	POS	POSITION	BR	GRADE	M/C	POSCO	REQ	AUTH	ASSIGN	NAME	ACTBR	ACTGR	STEP	TYPE	ACTPOS	ID	REMARKS	APC	MEPR			
** Subtotal **																			0	0	0.0		
** PARA 470B **																			0	0	0.0		
470B	00	00	PSY WD (4B)																				
470B	01	01	PSYCH NUR	AN	O3		66C		1	1	0.0								JAT1 APXB				
470B	02	01	PSYCH NUR	AN	O2	H	66C		1	1	-1.0 METZGER, MARCIA								JAT1 APXB				
470B	02	02	PSYCH NUR	AN	O2	H	66C		1	1	1.0 NELSON, TODD P								JAT1 APXB				
470B	02	03	PSYCH NUR	AN	O2		66C00		1	0	0.0								JAT1 APXB				
470B	02	04	PSYCH NUR	AN	O2		66C00		1	0	0.0								JAT1 APXB				
470B	03	01	PSYCH WD/STR	EL	E7	H	91F30		1	1	1.0 FEARS, RAMONA A								JAT1 APXB				
470B	04	01	PSYCH NCO	BL	E6	H	91F30		1	1	1.0 ERICKSON, KURT A								JAT1 APXB				
470B	05	01	PSYCH NCO	BL	B5	H	91F		1	1	1.0 URLAS, CARLOS III								JAT1 APXB				
470B	05A	01	PSYCH NCO	BL	B5	H	91F		0	0	1.0 REVERE, BENNIE JR								JAT1 APXB				
470B	05A	02	PSYCH NCO	BL	B5	H	91F		0	0	1.0 MIZELLA, NAOMI C								JAT1 APXB				
470B	05A	03	PSYCH NCO	BL	B5	H	91F		0	0	1.0 WHIPP, STEPHEN V								JAT1 APXB				
470B	06	01	PSYCH SP	BL	B4	H	91F20		1	1	1.0 HALL, MELISA R.								JAT1 APXB				
470B	06	02	PSYCH SP	BL	E4	H	91F20		2	1	1.0 GANT, JUDIE								JAT1 APXB				
470B	07	01	PSYCH SP	EL	E3	H	91F		1	1	1.0 MCCAIN, CARLOS D								JAT1 APXB				
470B	07A	01	PSYCH SP	EL	E3	H	91F10		0	0	1.0 FOOTE, DOUGLAS T								JAT1 APXB				
470B	07A	02	PSYCH SP	EL	E3	H	91F10		0	0	1.0 YEN, DANIEL S								JAT1 APXB				
470B	08	01	PSYCH NUR	GS	10		00610		1	1	0.0								JAT1 APXB				
470B	08	02	PSYCH NUR	GS	10	C	00610		1	1	1.0 THIGPEN, JULIA H								JAT1 APXB				
470B	08	03	PSYCH NUR	GS	10	C	00610		1	1	1.0 BARNETT, MARTHA L								JAT1 APXB				
470B	09	01	PSYCH NUR	GS	09		00610		1	1	0.0								JAT1 APXB				
470B	09	02	PSYCH NUR	GS	09	C	00610		1	1	1.0 ABALOS, EIVIRIA M.								JAT1 APXB				
470B	09	03	PSYCH NUR	GS	09		00610		1	0	0.0								JAT1 APXB				
470B	10	01	PSY NUR ASST	GS	04	C	00621		1	1	1.0 JONES, IRA W								JAT1 APXB				
470B	10	02	PSY NUR ASST	GS	04	C	00610		1	1	1.0 WILLIAMS, WILLIE K								JAT1 APXB				
470B	10	03	PSY NUR ASST	GS	04	C	00621		1	1	1.0 DUNNIS, MEREDITH W								JAT1 APXB				
470B	11	01	MED CLERK	GS	04	C	00679		0	0	1.0 DUNHAM, VERNON L								JAT1 APXB				
470B	88	02	PSYCH SP	EL	E3	H	91F		0	0	1.0 HARWICK, GEORGE T								JAT1 APXB				
470B	88	09	PSYCH SP	EM	E4	H	91F10		0	0	1.0 HEAD, MICHAEL								JAT1 APXB				
** Subtotal **																			20	17	22.0		

EXHIBIT 1-4

## **APPENDIX F**

## **APPENDIX G**

## **APPENDIX H**

# Guidelines for Psychiatric Practice in Public Sector Psychiatric Inpatient Facilities

*These guidelines were prepared by the Committee on State and Community Psychiatry Systems<sup>1</sup> of the Council on Psychiatric Services. They were approved by the Board of Trustees in December 1993.*

These guidelines deal with an important subject that directly affects the mental health care delivery system and its impact on the many Americans who receive care at public sector psychiatric inpatient facilities throughout the country. The American Psychiatric Association (APA) is committed to the principle that the provision of quality services should be the overriding goal in the delivery of care and treatment to all patients suffering from mental illness. While APA believes that the training and experience of any health care provider obviously has an important relationship to this goal, it nevertheless recognizes that the decision as to how best to provide quality care in a particular public psychiatric inpatient facility must ultimately be made by that facility's governing board, subject to any limitations imposed by state or federal law. In particular, this report focuses on the appropriate provision of psychiatric services in such settings and is not intended to define or describe the role of nonpsychiatrists. Any facility that relies on this report should assure that it has made an independent decision to do so on the basis of its own needs and policies, ultimately ascertained and developed by its governing board.

## RATIONALE FOR GUIDELINES

Psychiatric care in inpatient facilities is delivered through the combined expertise of multidisciplinary teams that include, among others, nurses, psychiatrists, psychologists, and social workers. The multidisciplinary approach is vital to the provision of comprehensive care within these settings. The effective delivery of this care requires both mutual appreciation of each discipline's special expertise and full interdisciplinary cooperation. Whenever possible, patients and families should be involved in treatment and discharge planning.

Several factors, outlined in the following, affect the role of psychiatrists working in state hospitals, and these guidelines set forth APA's view of the appropriate role of psychiatrists in public sector psychiatric inpatient facilities.

1. Public sector psychiatric inpatient facilities are health care organizations that diagnose and treat acutely and chronically mentally ill patients with the most severe disorders.

2. The care of these patients is a specialized area that requires a high level of expertise.

3. Mentally ill patients require comprehensive differential diagnostic evaluation, comprehensive and integrated treatment planning, and medical management in all three of the biological, psychological, and social spheres.

4. Medical problems frequently complicate the psychiatric problems of this patient population, requiring prompt diagnosis, treatment, and management.

5. The treatment of mentally ill patients in inpatient facilities requires medical management that frequently includes the prescription of medication and other somatic therapies, which often require physi-

<sup>1</sup>The committee includes Steven Edward Katz, M.D. (chairperson), Cheryl Singleton Al-Mateen, M.D., Gordon H. Clark, Jr., M.D., Lois Talbot Flaherty, M.D., Stuart L. Keill, M.D., Jacob Schut, M.D., James M. Trench, M.D., Harriet Lefley, Ph.D. (consultant), Harry Schnibbe (consultant), Seymour Gers, M.D. (Assembly liaison), and J. Randolph Swartz, M.D. (APB/Burroughs Wellcome Fellow).

cal and physiological preparatory workup and continued monitoring for side effects and toxicity.

6. Practitioners of the medical specialty of psychiatry have the medical training and skills needed to evaluate physical problems as well as their relationship to psychological and social phenomena.

7. The physician is usually held legally responsible for the medical/psychiatric care provided in his or her delivery system and should have authority appropriate to that responsibility.

It is clear, therefore, that to ensure quality care for patients with severe mental illness, a public sector psychiatric inpatient facility must provide appropriate psychiatric services for patients. To further this goal, APA recommends that ultimate responsibility for the clinical care of patients in such facilities be given to a psychiatrist medical/clinical director who is fully trained and qualified to provide appropriate supervisory oversight with respect to diagnosis, treatment planning, and clinical services for all patients.

## MODEL JOB DESCRIPTIONS FOR PUBLIC PSYCHIATRIC INPATIENT FACILITIES

### *Medical/Clinical Director or Chief Medical Officer*

The medical/clinical director or chief medical officer must be a qualified psychiatrist with the authority to provide clinical oversight for a public sector psychiatric inpatient facility. The specific responsibilities include the following.

1. Assuring that all facility patients receive appropriate medical/psychiatric evaluation, diagnosis, and treatment.
2. Assuring that clinical staff receive appropriate clinical supervision.
3. Overseeing the work of all physicians and medical trainees.
4. Assuring the appropriate implementation of clinical staff development and staff training activities.
5. Overseeing the recruitment of physicians.
6. Reviewing and approving all clinical policies and procedures on a regular basis.
7. Overseeing quality improvement and monitoring activities.
8. Overseeing all research efforts.
9. Assuring the appropriate privileging and performance review of physicians and, through a multidisciplinary process, all other clinical staff.
10. Collaborating with the chief executive officer in a) strategic planning, b) relating to the governing body, and c) communicating with the state mental health program director's office.
11. Providing liaison for the facility with community physicians and other professionals and agencies with regard to psychiatric services, particularly with regard to assuring continuity of patient care.
12. Assuring the development and maintenance of all educational programs; public-academic liaison should be fostered.

By licensure, training, and prior clinical and administrative experience, the medical/clinical director or chief medical officer should be qualified to carry out these functions. The medical/clinical director or chief medical officer must be board certified or board qualified. Specifically, he or she should be knowledgeable about contemporary therapeutic and rehabilitative modalities necessary in working with the population served by the program. This position is a full-time responsibility but is not intended to preclude participation in state-academic collaborations.

### *Staff Psychiatrist (Full- or Part-Time)*

The staff psychiatrist has authority and responsibility for psychiatric services of the division assigned to him or her by the medical/clinician.

cal director or chief medical officer. The specific responsibilities include the following.

1. Providing direct psychiatric services through comprehensive evaluation, diagnosis, treatment planning, and treatment for patients assigned to him or her.
  2. Making final decisions regarding admissions and discharges of patients in accordance with medical standards.
  3. Assuring appropriate psychoeducation for patients, families, staff, and community professionals and lay people.
  4. Assuring the involvement of families whenever possible, with the patient's consent, in treatment planning.
  5. Assuring that clinicians in services assigned to him or her receive appropriate clinical supervision on a regular basis.
  6. Participating in administrative duties as assigned, which could include, for example, being a member of or chairing the quality assurance and/or utilization review committees.
  7. Providing psychiatric leadership to interdisciplinary teams. The staff psychiatrist's responsibility on a multidisciplinary inpatient team includes treatment team planning and regular reviews that comprehensively address the patient's biopsychosocial needs.
  8. Providing psychiatric in-service training to other clinical staff.
  9. Serving as psychiatric liaison to community care providers, particularly with regard to continuity of patient care.
  10. Identifying and advocating needed resources, including staff, to the medical director.
- A staff psychiatrist must be board certified or board qualified. If he or she is working on a subspecialty unit, appropriate subspecialty training and/or supervision is required.

#### GUIDELINES FOR PSYCHIATRIC AND OTHER MEDICAL EVALUATION AND TREATMENT OF PATIENTS

1. Each patient should receive timely, comprehensive psychiatric evaluation, diagnosis, and treatment planning in the biological, psychological, and social spheres.
2. Each patient should be medically screened and his or her history should be reviewed to assure that the full range of medical and surgical considerations is taken into account in determining the diagnosis and appropriate treatment; medical or surgical consultation should be assured when indicated.
3. A psychiatrist may prescribe or adjust psychotropic medication only after his or her direct evaluation of the patient, except in times of emergency; in the latter case, timely direct evaluation should follow.
4. A patient receiving medications should have his or her medications reevaluated by a psychiatrist as clinically appropriate and at least monthly, although preferably more frequently. Patients not receiving medications should be reevaluated by a psychiatrist at timely, clinically appropriate intervals.
5. The frequency, process, content, and duration of any psychiatric evaluation or intervention should be based on patient need and not on administrative or fiscal considerations.
6. Quality assurance and a utilization review of patients should include appropriate medical/psychiatric participation.

#### GUIDELINES FOR EMERGENCY COVERAGE

1. Direct emergency psychiatric services must be available at all times, including nights, weekends, and holidays. Emergency coverage should always be provided by a psychiatrist or by a psychiatric resident under the supervision of a psychiatrist.
2. Emergency medical and surgical services must be available on site or readily accessible at an acute care hospital.

#### PSYCHIATRIC RESPONSIBILITIES ON A MULTIDISCIPLINARY TEAM

In public psychiatric inpatient facilities, psychiatrists' interdisciplinary teamwork with other clinicians serves the following important functions.

1. To assure that the psychiatric and other medical services provided meet prevailing professional standards.
2. To assure the involvement of patients and families in treatment and discharge planning whenever possible.
3. To provide regular opportunities for collaboration by psychiatrists and other professional staff concerning patients that they are treating in common.
4. To inform and educate other clinical staff regarding salient aspects of patient health, the interrelationship of psychosocial and physiological problems, and the appropriate use of psychotropic medications, their side effects, toxicity, etc.
5. To provide support for clinical staff in dealing with severely disturbed patients.

#### GUIDELINES FOR PSYCHIATRIC STAFFING

Psychiatric staff should be qualified in training and experience and adequate in numbers for carrying out the functions defined within this document.

#### GUIDELINES REGARDING PSYCHIATRISTS' SIGNATURES

Psychiatrists should adhere to the "Guidelines Regarding Psychiatrists' Signatures" (1) approved by the APA Board of Trustees in 1989.

#### GUIDELINES REGARDING PSYCHIATRIC ETHICS

Psychiatrists should adhere to *The Principles of Medical Ethics With Annotations Especially Applicable to Psychiatry* (2).

#### REFERENCES

1. Guidelines regarding psychiatrists' signatures (APA official actions). Am J Psychiatry 1989; 146:1390
2. The Principles of Medical Ethics With Annotations Especially Applicable to Psychiatry. Washington, DC, American Psychiatric Association, 1989

## **APPENDIX I**

## **APPENDIX J**

## UTILIZATION MANAGEMENT REPORT

**REPORTING PERIOD: 12/1/95-12/31/95**

### I. STAFFING /PERSONNEL ISSUES

This month concentration was directed towards clarifying the inpatient review process with Cumberland Hospital. Weekly meetings were held with the QA Director and UM staff from Cumberland Hospital and the FHC Options Utilization Management Director. A procedure was initiated for scheduling a set time for reviews by hospital unit. A CHOICE Line Clinician was designated as responsible for the reviews on each unit and a timetable has been established that is convenient for both the hospital UM Coordinators and the CLCs.

Weekly UM staff meetings were held with the Utilization Management Director, Utilization Review Coordinator, Customer Service Coordinator and the Technical Support Assistant in attendance. Issues addressed included OTR and authorization letter processing. The wording of authorization letters is under revision to better describe the reason for letters to both beneficiaries and providers. The current method of maintaining a log for walk-ins has been revised to include more information needed for tracking outcomes. Other issues discussed were placing calls in queue, time-out for each CLC during each work day for addressing data entry and other administrative tasks and specific times for inpatient reviews with Cumberland Hospital.

New "source" codes have been established to identify inquiries by beneficiary or provider. These codes will more clearly define the origin of the inquiry and increase accuracy of monthly statistics.

Evaluations were finalized for those employees completing their first three months probationary period. All employees were found to be performing their duties satisfactorily.

#### A. CHOICE Line Clinician Activity Summary:

CHOICE Line activities for the month included the following:

- \* CPT codes - Specific CPT codes are now shown on authorization letters to providers. It is hoped this addition will reduce the number of incorrectly filed claims by providers resulting in denied claims.
- \* Outpatient Treatment Report review standards - Internal review standards based on length of stay and frequency of sessions were developed to ensure that beneficiaries' treatment needs are being adequately met at the outpatient level.
- \* Continued Stay Reviews - CHOICE Line staff were designated and specific times set for continued stay reviews with Cumberland Hospital. This scheduling of reviews expedites the review process while allowing CLC staff to function more efficiently.

An end of year summary of the Ft. Bragg beneficiary population accessing levels of care other than outpatient was prepared using daily census data. Beneficiaries already in a given level of care as of 10/1/95 were counted as admissions. Admissions and discharges by specific levels of care for 1995 were as follows:

- \* Inpatient: 115 admissions ; 107 discharges (1 AMA)
- \* 20 hr. crisis stabilization: 13 admissions; 13 discharges (1 AMA)
- \* Partial hospitalization: 25 admissions; 18 discharges
- \* RTC: 17 admissions (7 out of area beneficiaries); 12 discharges
- \* Therapeutic group home: 19 admissions; 15 discharges (1 AMA) (1 CSGH)
- \* Therapeutic foster home: 5 admissions; 4 discharges
- \* Respite care: 1 admission; 1 discharge

### III. INPATIENT CASE MANAGEMENT REVIEWS

LEVEL OF CARE	REVIEWS	AUTHORIZATIONS	AUTHORIZED DAYS	AVERAGE DAYS AUTHORIZED PER REVIEW	AVERAGE LENGTH OF STAY	AVERAGE DAILY CENSUS
ACUTE	98	31	163	1.6	5.2	5.5
20 HOUR CRISIS STABILIZATION	8.0	7.0	7.0	1.0	1.0	.32
PARTIAL	51	16	193	3.8	12.1	9.2
RTC	22	3	146	6.6	48.7	1.6
TGH	27	4	127	4.7	31.8	3.2
TFH	3	1	21	7.0	21	.35
CGH	0	0	0	0	0	0
IHS	0	0	0	0	0	0
RSP	3	2	6	2	3	utililized 2 weekends in the month of December by 1 patient
TOTAL	212	64	663	3.1	N/A	N/A

NUMBER OF REVIEWS:	CURRENT MONTH	YEAR TO DATE	LAST YEAR TO DATE
	212	663	N/A

## V. COST SAVINGS DUE TO CHOICE LINE CLINICIAN INTERVENTION

AVERAGE LENGTH OF INPATIENT STAY:	9 DAYS
AVERAGE INPATIENT COST:	\$500
AVERAGE PARTIAL COST:	\$213
AVERAGE CRISIS STABILIZATION COST:	\$500
AVERAGE RTC COST:	\$480
AVERAGE TGH COST:	\$190

NUMBER OF PATIENTS IN PARTIAL HOSPITALIZATION PROGRAM: (assumed that without case management 100% of cases would have received inpatient care)	16
NUMBER OF CRISIS STABILIZATION CASES AVERTED FROM INPATIENT CARE: (assumed that without case management 100% of cases would have received inpatient care)	3
NUMBER OF THERAPEUTIC GROUP HOME CASES AVERTED FROM RTC: (assumed that without case management 75% of cases would have received RTC care)	4

NUMBER OF PARTIAL HOSPITALIZATION DAYS:	193
NUMBER OF CRISIS STABILIZATION UNITS, CASES AVERTED FROM INPATIENT CARE:	3
NUMBER OF THERAPEUTIC GROUP HOME DAYS:	127

PROJECTED COST WITHOUT CASE MANAGEMENT :	
16 PARTIAL PATIENTS X \$500 (Inpatient rate) X 9 DAYS (AVERAGE INPATIENT LOS)=	\$72,000
3 CRISIS STABILIZATION PATIENTS X \$500 (inpatient rate) X 9 DAYS=	\$13,500
4 THERAPEUTIC GROUP HOME PATIENTS X \$480 (RTC rate) X 30 DAYS=	\$57,600
TOTAL	\$143,100

PROJECTED COST WITH CASE MANAGEMENT :	
193 PARTIAL DAYS X \$213 (Partial daily rate)=	\$41,109
3 CRISIS STABILIZATION UNITS X \$500 (Crisis stabilization daily rate)=	\$1,500
127 THERAPEUTIC GROUP HOME DAYS X \$190 (TGH daily rate)=	\$24,130
TOTAL	\$66,739

## **APPENDIX K**

REPORT A: TOP 50 DIAGNOSES (DIAGNOSES FOUND ANYWHERE IN RECORD)  
 (RECORD COUNTED MORE THAN ONCE)  
 FT BRAGG, FY95

DIAG\_CODE

FREQ

V270	SINGLE LIVEBORN	
V3000	SINGLE LIVEBORN IN HOSPITAL, WITHOUT CESAREAN DELIVERY	2453
4019	ESSENTIAL HYPERTENSION, UNSPECIFIED	2127
2859	ANEMIA, UNSPECIFIED	1042
66331	CORD ENTANGLEMENT WITHOUT MENTION OF COMPRESSION, DELIVERED	531
64822	ANEMIA COMPLICATING PREGNANCY, DELIVERY WITH POSTPARTUM COMPL	507
65631	FETAL DISTRESS AFFECTING MANAGEMENT OF MOTHER, DELIVERED	485
64781	OTH SPEC INFECTION/INFESTATION COMPL PREGNANCY, DELIVERED	483
66401	FIRST-DEGREE PERINEAL LACERATION, DELIVERED	439
V025	CARRIER OR SUSPECTED CARRIER, OTH SPECIFIED BACTERIAL DISEASE	417
41400	CORONARY ATHEROSCLEROSIS OF UNSPECIFIED VESSEL (EFF OCT 94)	411
V3001	SINGLE LIVEBORN IN HOSPITAL, BY CESAREAN DELIVERY	382
66411	SECOND-DEGREE PERINEAL LACERATION, DELIVERED	344
2765	VOLUME DEPLETION	336
412	OLD MYOCARDIAL INFARCTION	297
2851	ACUTE POSTHEMORRHAGIC ANEMIA	294
25000	DIAB MEL WO COMPL, TYPEII, NIDDM, ADULT/NOS, NOT UNCONTROL	285
7608	OTHER SPECIFIED MATERNAL CONDITIONS AFFECTING FETUS/NEWBORN	278
49391	ASTHMA, UNSPECIFIED TYPE, WITH STATUS ASTHMATICUS	276
64403	THREATENED PREMATURE LABOR, ANTEPARTUM	275
436	CHRONIC AIRWAY OBSTRUCTION, NEC	255
7625	OTHER COMPRESSION OF UMBILICAL CORD AFFECTING FETUS/NEWBORN	239
55090	INGUINAL HERNIA NOS, UNILATERAL OR UNSPECIFIED	238
466	PNEUMONIA, ORGANISM UNSPECIFIED	237
49390	ASTHMA, UNSPECIFIED TYPE, STATUS ASTHMATICUS NOT MENTIONED	227
V843	PROCEDURE NOT CARRIED OUT FOR OTHER REASONS	217
4280	CONGESTIVE HEART FAILURE	209
V072	NEED FOR PROPHYLACTIC IMMUNOTHERAPY	201
5990	URINARY TRACT INFECTION, SITE NOT SPECIFIED	200
470	DEVIATED NASAL SEPTUM	199
71783	OLD DISRUPTION OF ANTERIOR CRUCIATE LIGAMENT	189
65421	PREVIOUS CESAREAN DELIVERY IN PREGNANCY, DELIVERED	189
7526	OTH/UNSPEC CONDITIONS, UMBILICAL CORD AFFECTING FETUS/NEWBORN	184
V252	STERILIZATION	182
66551	OTHER INJURY TO PELVIC ORGANS, DELIVERED	181
6086	INTESTINAL INFECTIONS, OTHER ORGANISM, NEC	180
650	DELIVERY IN A COMPLETELY NORMAL CASE	177
7561	OTHER "HEAVY-FOR-DATES" INFANTS NOT RELATED TO GESTATION	174
66421	THIRD-DEGREE PERINEAL LACERATION, DELIVERED	168
64501	PROLONGED PREGNANCY, WITH DELIVERY	166
30391	ALCOHOL DEPENDENCE, OTHER AND UNSPECIFIED, CONTINUOUS USE	158
28110	CHRONIC SEROUS OTITIS MEDIA, SIMPLE OR UNSPECIFIED	150
6259	UNSPECIFIED SYMPTOM ASSOCIATED WITH FEMALE GENITAL ORGANS	148
25001	DIAB MEL WO COMPL, TYPEI, IDDM, JUVENILE, NOT STATE UNCNTRL	147
65231	OTHER SPECIFIED MALPOSITION/MALPRESENTATION, DELIVERED	146
78650	UNSPECIFIED CHEST PAIN	144
2113	BENIGN NEOPLASM, COLON	144
		138

PREPARED BY: Department of the Army, PASBA-MCHI-QZ  
 SOURCE: Standard Inpatient Data Record (SIDR).

Page: 2

REPORT A: TOP 50 DIAGNOSES (DIAGNOSES FOUND ANYWHERE IN RECORD)  
FT BRAGG, FY95

DIAG_INC	FREQ
V4581 POSTSURGICAL AORTOCORONARY BYPASS STATUS	137
4740 CHRONIC TONSILLITIS	134
3829 UNSPECIFIED OTITIS MEDIA	133
TOTAL	17253

DIAG\_INC.TOP50

PREPARED BY: Department of the Army, PASBA-MCHI-QZ

SOURCE: Standard Inpatient Data Record (SIDR).

## **APPENDIX L**

TOP 50 PROCEDURES  
FT BRAGG, FY95

PROC_CODE	PROCEDURE	FREQ
7532	FETAL EKG (SCALP)	1770
7535	OTHER DIAGNOSTIC PROCEDURES ON FETUS AND AMNIOTIC FLUID	1514
640	CIRCUMCISION	1214
7309	OTHER ARTIFICIAL RUPTURE OF MEMBRANES	1172
9394	RESPIRATORY MEDICATION ADMINISTERED BY NEBULIZER	1049
9921	INJECTION OF ANTIBIOTIC	855
7569	REPAIR OF OTHER CURRENT OBSTETRIC LACERATION	704
736	EPISIOTOMY	622
8026	ARTHROSCOPY OF KNEE	406
6872	DIAGNOSTIC ULTRASOUND OF HEART	394
741	LOW CERVICAL CESAREAN SECTION	367
4516	ESOPHAGOGASTRODUODENOSCOPY (EGD) WITH CLOSED BIOPSY	367
5421	LAPAROSCOPY	351
734	MEDICAL INDUCTION OF LABOR	349
0331	SPINAL TAP	339
8703	COMPUTERIZED AXIAL TOMOGRAPHY OF HEAD	333
9929	INJECTION, INFUSION, OTHER THERAPEUTIC, PROPHYLACTIC SUBSTANCE	332
4523	COLONOSCOPY	296
2001	MYRINGOTOMY WITH INSERTION OF TUBE	262
9919	INJECTION OF ANTICOAGULANT	249
7359	OTHER MANUALLY ASSISTED DELIVERY	243
1371	LENS PROSTHESIS INSERTION AT CATARACT EXTRACTION, ONE STAGE	238
4513	OTHER ENDOSCOPY OF SMALL INTESTINE	232
4525	CLOSED (ENDOSCOPIC) BIOPSY OF LARGE INTESTINE	228
7562	REPAIR, CURRENT OBSTETRIC LACERATION OF RECTUM, SPINCER ANI	226
8801	COMPUTERIZED AXIAL TOMOGRAPHY OF ABDOMEN	219
1341	PHACOEMULSIFICATION AND ASPIRATION OF CATARACT	213
6876	DIAGNOSTIC ULTRASOUND OF ABDOMEN AND RETROPERITONEUM	204
9911	INJECTION OF RH IMMUNE GLOBULIN	200
806	EXCISION OF SEMILUNAR CARTILAGE OF KNEE	197
6941	CARDIOVASCULAR STRESS TEST USING TREADMILL	192
2319	OTHER SURGICAL EXTRACTION OF TOOTH	188
5123	LAPAROSCOPIC CHOLECYSTECTOMY	186
3878	DIAGNOSTIC ULTRASOUND OF GRAVID UTERUS	177
963	OTH EXCISE/DESTRUCT, LESION, TISSUE/SKIN/SUBCUTANEOUS TISSUE	160
6086	OTHER LOCAL EXCISION OR DESTRUCTION OF LESION OF KNEE JOINT	148
282	TONSILLECTOMY WITHOUT ADENOIDECTOMY	148
9396	OTHER OXYGEN ENRICHMENT	147
721	LOW FORCEPS OPERATION WITH EPISIOTOMY	145
545	LYSIS OF PERITONEAL ADHESIONS	142
3893	OTHER VENOUS CATHETERIZATION	138
5302	UNILATERAL REPAIR OF INDIRECT INGUINAL HERNIA	131
7936	OPEN REDUCTION, FRACTURE, TIBIA AND FIBULA W INTERNAL FIXATION	127
470	APPENDECTOMY	122
8875	DIAGNOSTIC ULTRASOUND OF URINARY SYSTEM	118
6145	OTHER REPAIR OF THE CRUCIATE LIGAMENTS	117
6952	ASPIRATION CURETTAGE FOLLOWING DELIVERY OR ABORTION	112

PREPARED BY: Department of the Army, PASBA-QBS-RE  
 SOURCE: Standard Inpatient Data Record (SIDR).

TOP 50 PROCEDURES  
FT BRAGG, FY95

PROC_INC	FREQ
283 TONSILLECTOMY WITH ADENOIDECTOMY	112
8607 INSERTION OF TOTALLY IMPLANTABLE VASCULAR ACCESS DEVICE	111
7561 REPAIR OF CURRENT OBSTETRIC LACERATION OF BLADDER, URETHRA	108
TOTAL	17974

PROC\_INC.TOP50

PREPARED BY: Department of the Army, PASBA-QBS-RB

SOURCE: Standard Inpatient Data Record (SIDR).